The Builder.

No. CLXXXV.

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ARCHITECTURAL and artistical matters have occupied the attention of the legislature and the public, during the last few days, to a much greater extent than usual. A foreigner reading the parliamentary reports during this period might really be led to suppose, that the House of Commons did sometimes give a thought to the Beautiful, were slightly interested in the architectural appearance of the metropolis, and had at last attained a notion, that they had other things to do besides striving to keep one party in or drive another party out.

Is Buckingham Palace a worthy, or even endurable habitation for the Queen of England? Or can it be made so? Have we not power to prevent one or two well-meaning but mistaken individuals from injuring one monument at Hyde Park corner by the sacrifice of a second? Shall Westminster Bridge, a ruinous nuisance, once the world's wonder! be taken down and rebuilt? If so, how obtain designs in order to secure a perfect structure? and where should it be placed, to give the best effect to the new Parliament Houses? Can Mr. Barry and Dr. Reid be reconciled, and the aforesaid Parliament Houses be finished at last? Lastly, shall the British Museum, and other national collections of works of fine art, be opened to the public on Sundays, during such hours as the pot-houses are open? Our *representatives* don't assert now that knowledge is dangerous to all but the rich; that the contemplation of works of fine art has no good effect; that to talk of educating the public through the eye is nonsense, or if practical is unnecessary, not to say dangerous (though *all* this they asserted once, and were willing to burn for their opinions). But they still doubt as to smoothing the way for the acquisition of this knowledge, or giving opportunities for this contemplation; and so they think it better, at present at all events, not to afford the worker, on his weekly holiday, the choice between the healthful excitement of an instructive ramble with his family amongst the noble works of past times, and the destructive excitement of the pot-house, with its separating influences, and its other baneful, fearfully baneful, attendants.

These, however, are the questions which have been, and are still, before them,—all affording us matter for comment—indeed, calling for our attention now and again. Mr. Blore's report on the insufficiency of accommodation in Buckingham Palace, shewing the dreadful shifts to which our royal mistress is reduced to find room for her Majesty's family, guests, and servants, would be a most amusing document if it were not true. Noise, bad smells, confined and ill-ventilated apartments, kitchen a nuisance, no room for balls, and withal imminent danger of fire, are set forth as some of the discomforts and risks amidst which the Queen has lived; and brought down, as might be expected, a nearly unanimous vote of 20,000*l.*, in part of the 150,000*l.* at which the whole cost of the alterations is estimated.

Now we do not find fault with this. If the Queen is not properly lodged, she should be. The London royal residences are a disgrace to the nation. But what we would urge is, that no more public money should be spent, in addition to the large amount already wasted on this site, without the fullest assurance of a satisfactory result. The alterations proposed, include the building of a new east front to the palace; clearing out and re-arranging rooms in the south wing; new kitchens and other offices with ball-room over; decorations and painting; and *taking down the marble arch:* and we do hope that before these be attempted, some means will be taken to satisfy the public that they will not be called on twenty years hence, to pay for removing what they are now called on in the dark to pay for putting up.

The marble arch is a case in point. The erection of this tasteless and unsatisfactory structure, of a material quite unsuited for exposure to our atmosphere, cost an enormous sum of money, nearly as much, if we remember rightly, as was voted for the erection of the National Gallery, yet it is now to come down, and will not be grieved for by the judicious.*

George IV. and Mr. Nash together, concocted to their own satisfaction the present palace,—a precious example of the would-be magnificent: without beauty, grace, or dignity. With such a warning before them, surely the public may fairly ask to be informed what the building will be like when the 120,000*l.* are spent, and be enabled themselves to judge whether or not it will then efficiently answer the purpose. A letter from a correspondent on this same subject will be found on another page.

In the matter of the "bronze horse," Lord Morpeth, let it be said with all respect, has disappointed us. The colossal figure of the Duke of Wellington is to be placed, by the force of Woolwich dock-yard, on the top of the archway for three weeks, and then if it be not approved of *by the Government*, it is to be taken down, and placed on the ground again. If this be not a mere blind, it is the most nonsensical arrangement we ever heard of; and, moreover, is not in accordance with the pledge made to the House when the works were stopped. The effect of the figure all can estimate but those who have raised an image in their own minds, which they mistake for the truth, and it needs no such costly experiment as is about to be tried, to prove that the result cannot be satisfactory. Once up, however, it is to be feared there will be little chance of relieving the arch of its incubus: to recal "all the Queen's horses and all the Queen's men," to put humpty-dumpty on the ground again, will be a task of no ordinary difficulty; and, like the old man of the mountain, in the Arabian tales, it will stick tight to its victim, and ride him to death. We bide the event.

The report of the committee appointed to consider the present state of Westminster-bridge, offers several points of interest, to which we must refer on another occasion. The only question in reality unsettled, appears to be the design for the new structure, and the best mode of obtaining it. The committee recognize these two principles, firstly, "That a suspension bridge is inexpedient, and (secondly) that irrespective of expense, a granite bridge is expedient." They took Professor Hosking's opinion as to a mode of securing the first talents in the production of the designs, and as this is a matter which immediately presses, we give the greater part of Mr. Hosking's statement in this respect.

"The essential matters should be defined by the proper authorities, in the first instance, and before attempts are made to obtain designs. A specification of what is required should then be made; and this should be more or less particular, as it may be determined either to fix a sum of money as the limit of expense, or, on the other hand, to receive designs with reference to the object, and without limiting the expense. Such a specification should be put into the hands of a reasonable number of competent practitioners, with a request that they would each make a design for the contemplated work in accordance with the stated conditions. All the designs so obtained may be examined and investigated with the advantage of the presence of their authors, to explain what they may have intended, and to correct what may be misunderstood. In this manner the best energies of competent men would be applied to the work, and it is probable that the best results would follow. . . . A general competition would end in general disappointment. . . as none of the persons who would be recognized as most competent would send designs without being specially applied to for them. . . . At the time London-bridge was in contemplation, advertisements were issued for designs, with offers of some three or four premiums. Drawings were sent accordingly by seventy or eighty persons, and the premiums were awarded to the three or four which were said to be the best designs, but not one of them was used; they were immediately thrown away, and a design was taken up which had not been in the competition; but which, indeed, had been in the hands of the Bridge Committee beforehand, and the author of which was already dead. The late Mr. Rennie's design was executed. In order to avoid this apparent invidiousness and unfairness, and to secure the real benefits of a competition among competent men, the selection of the architects and engineers should be limited, and each should receive a certain remuneration for the work which he might send in. No man can afford to work for nothing. Every design asked for should be paid for; and no one ought to be asked, either directly or indirectly, to make a design unless it be intended to pay him for it. If this system were adopted, the property in the designs so sent in would belong thereafter to the authority by the directions of which they had been sent in, so that the good parts of one design might be accommodated to the good parts of other designs, and the combined result of the whole would be something superior to that of any one individual design. This is one of the advantages from requiring designs from persons of known ability, and paying for them, so that all the designs obtained may be turned to account. It is the parties seeking designs, and who desire to derive advantage from the application of many minds to the same subject, that are to be benefited; and they who seek a benefit must be contented to pay for it. It can never happen but that in several designs for the same thing there will be some points or parts in some of the designs, other than that which may be generally the best, better than the same points in the best design. When all are paid for, all may be used; and the best design in a "concurrence" may be greatly improved by the incorporation of the excellencies of the others."

We select this one point the more particularly because we hear whispers that plans are already commissioned, and are most anxious that the design should be architecturally as well as constructively efficient; too little attention in this point of view having been heretofore paid to our bridges.

The sum named as the probable cost of the bridge is 360,000*l.*

CHICHESTER CATHEDRAL.—It is with much pleasure we are able to state that the effigy and table tomb of Richard, Bishop of Chichester, who died 1252, which was in a sad state of mutilation, has, after some months of labour, been restored by Mr. E. Richardson, the sculptor, and replaced in its late position under the shrine, in the south transept of the cathedral; where, with much pomp and ceremony, Edward I. with Queen Eleanor and the court, witnessed the translation of the bishop's remains and the setting up of the present tomb, in the summer of 1276. A rose window has been placed in the east gable of the cathedral

* Whether or not it will be re-erected cannot be said; it is to be hoped not, without great alteration.

THE ROMAN, ROMANESQUE AND GOTHIC ARCHITECTURE OF ITALY.*

It would be interesting to consider the proper meaning, and use of the term, Romanesque. By many, who have not examined the history of art with more than ordinary attention, it is applied generally to all styles, which grew obviously out of that of the Roman empire. Particularly, it is used either for the debased Roman of the Christian basilicas, or the style of Lombardy and the Rhenish churches, with which it is common to associate, but perhaps erroneously, the early architecture of France, and that of the Normans in various parts of Europe. The names Lombard and Byzantine have equally required an accurate definition. The writer in the *Quarterly Review*,† rightly ascribes a higher merit to the "style of the Roman Christian basilica" than would be given by the name Romanesque; it is nearer allied to the Roman style of the empire. Indeed, the principal alteration in the Christian basilicas consisted in the use of arches, springing directly from columns; though this practice was not universal; whilst the omission of the entablature had examples long before the time of Diocletian, judging only from the archivolt springing from a pilaster, of which the arch of Hadrian at Athens is an example. In fact, it is almost surprising, how numerous were those features, usually considered peculiar to later styles, which found precedent, at some time or other, in the architecture of the empire. The diminutive columns of the churches of Lombardy, and the Pisan cathedral, have their prototypes at Bäalbec and Spalatro, and were actually taken from Roman buildings, as there is the best reason to suppose. The arches without archivolts, which were considered by Mr. Knight, to prove the late origin of a particular building, are found in the theatre of Marcellus, and the coupled columns at Palmyra.

The writer, above referred to, has not entered into the explanation of the term Romanesque, though he would appear to apply it to all the styles in question, exclusive of that of the Christian basilica. "The Lombard style" may define that variety which prevailed in Lombardy, and with which the style of the Rhenish country is, in fact, identical,—taking care, however, to separate it from a similar kind of architecture in France. The reviewer and Mr. Knight do, however, differ in one important respect. Whilst the latter describes the Lombard style, as existing in Italy previous to the dynasty of Charlemagne, and adduces evidence tending to shew, that through that emperor it became the style of Aix-la-Chapelle, and the Rhine; the former gives evidence, also important, that its course was in an opposite direction. The cathedral of San Michele, at Pavia, which city was the seat of Government both during the Lombard rule, and that of the later dynasty, is placed by Muratori in the 7th, or 8th century, which would warrant the conclusion respecting many examples, were the date of the cathedral unquestioned. But, as to this, even the 11th century is sometimes mentioned, whilst the reviewer finds the prototype of the style in the Porta Nigra, at Treves, a building, however, respecting the date of which there is also some difficulty. According to the latter writer, the church of San Michele did not exist during the occupation of Pavia by the Lombards. The bell-tower was probably of tramontane birth, but the opinion that the architecture of Lombardy was of "Teutonic" *origin* does, we think, require further proof.

The style of the basilica has been appropriately termed "a *transmission*, by usage and practice of Roman art;" the Romanesque style, "an *imitation* by barbarous hands." The former style was not without influence, even to the time of the revival, whilst at Ravenna, Venice, and Florence, complete churches were erected, although the local style was at each time entirely distinct. In Ravenna, this is most remarkable. The church of San Vitale, and that of Sant' Apollinare ad Classem, were both erected by Julianus, the minister of the Greek emperor, Justinian; yet whilst the former church is Byzantine, the latter has the style of the Christian basilica. This singularity would, however, be accounted for, by supposing the one building to have been devoted to the service of the Greek, and the other to that of the Latin church; for there is no doubt that the schism between the two churches created a feeling of acrimony so great, that whatever was practised by one was studiously avoided by the other. The basilica style was constantly exerting a similar influence, either, as in this case, by its complete adoption, or by reflection and influence upon the style, which had originally grown out of it, of which Pisa cathedral forms an instance.

The main features of the early architecture of the Lombards—which varied little from the style which they found in the country—were in additional decoration, as in the slender compound piers or buttresses, carried from the ground to the eaves, up the fronts of churches, in the small arcades, which follow the shape of the gable or crown the apse, in the multiplication of the sinkings and mouldings of portals, in the crowd of imagery with which these mouldings are enriched, and in the neglect of the proportions of pillars. In the interiors of churches, compound piers were formed instead of single pillars; the capitals were dissimilar, but had grotesque images in nearly all cases. The style which had existed previously was that displayed in the "Palace of Theodoric," at Ravenna. Small pillars projected from the walls, sometimes supported on brackets, and one was occasionally employed as a division for two openings, as in many Saxon and Norman examples;—an arched door was also, for the first time, used. But, the reviewer doubts whether this building be of the age usually claimed for it—about 500—and gives the difference in style between the *palace* and the "authentic sepulchre," as a reason for his opinion. It must be allowed, that there is great difference of style; but supposing the tomb to be "authentic," the palace may still be of the date generally given to it. During several centuries in Italy, the ordinary rules for physiognomy of style are quite inapplicable, of which there are instances enough at Florence, and of which we have just seen a remarkable instance in this very city of Ravenna. In the desire to prove the "Teutonic" origin of the Romanesque style, the reviewer has not given sufficient importance to the influence of Roman architecture in the country, in which were not only its finest specimens, and precedents for the use of small columns in the Romanesque manner, but also the very materials, shaped and finished, out of which the Romanesque style came to life, and from which, as in the case of Pisa Cathedral, its examples were constructed.

In the 11th and 12th centuries, in Italy, a great number of churches were built, the Lombard Romanesque style being that generally adopted. In Tuscany, however, the return to classical principles, observable in the churches of San Miniato and Degli Apostoli, seems to have had sufficient influence over the architect of Pisa cathedral to make him eschew many of the errors of the Lombard style, and impart to the original Romanesque much of classical feeling and elegance. We have already referred to this style, of which the churches of Pisa in their original state were striking examples; and the conflicting evidence respecting the cathedral has been incidentally alluded to. It would require more space than we are at present allowed, to consider all the bearings of the question, one on which the best authorities are so much at variance. In architectural, as well as in other investigations, we frequently find, that the desire of affording a short answer to an inquiry tends to the omission of much important evidence. In England, we all recollect, how at one time a Gothic building was classed either as "Early English," "Decorated," or "Perpendicular;" it was considered to belong to only one of these styles. But it was discovered that architecture had a gradual progression—that sudden alterations were the exceptions in its history; and we then spoke of "styles of transition." Still there was some misconception, for as we may see by the reports of Professor Willis's lectures in former numbers of The Builder, even in a window of which every part had the same date, all the details are not necessarily to be referred to the same style. Thus, in the Cathedral of Pisa, in seeking the answer, Italian or Greek, we possibly forget that both styles may have had influence.

The plan of a building, when its original state can be discovered, affords the best grounds for a definite answer; and in the Pisan structure we should be warranted in ascribing the chief influence to Italy, because the plan is not Greek, but Italian. But, the architect may have been directed to avoid the Greek plan, and therefore the present plan still does not prove that he was an Italian. But, the altar towards the east may have been derived from the Byzantine practice, as it is not clear when the original method in Italy was changed.* But, whatever his nation, he must have been one of the most able architects of his time; we find in his work all the peculiarities of style and plan, which were really valuable, adopted and improved upon, the license of the early Lombard school being rejected.—The cupola had been adopted by the Lombards from the buildings at Ravenna.

The love of arched and curved forms, amongst the architects of that school, has been the main reason with many for classing the cathedral as Byzantine; but there is every reason to suppose that the use of arcades, as here found, did not necessarily come from Greece. There were, indeed, many Greek artists in Italy about the time of the building, though they were rather operators than designers, but, it had been a reason for supposing the mosaics of the cathedral would prove its Greek origin, either from their execution by Byzantine artists, or, as Messrs. Cresy and Taylor ingeniously suggest, from an acquaintance with the polychromatic decoration of Athenian temples. But, the use of coloured marbles must have been familiar to any architect, who had examined Roman buildings, or perhaps even remains of the baths of Hadrian, which would be found on the site of the cathedral; and the Byzantine mosaic was mostly of small tesseræ. In the cathedral, the coloured decorations, not in courses, are slabs of marble, bedded in cement, and may have been added to the original building, as in some other instances, accounts of which may be met with.

The late Mr. Hope, and Mr. Gally Knight have so completely described the characteristics of Lombard architecture, that we need add little to what we have already said. But the former writer, instead of confining the name to that variety, which prevailed in Lombardy and the Rhine country, has made it synonymous with the general term "Romanesque." Under the head "Lombard Architecture," he has included not only what we have described as Lombard, but Norman examples, with many others in France and England. The constant progression of architecture renders any system of nomenclature inadequate to that, which it is designed—to supplant, description, or representation; and what we have spoken of as Lombard, we might readily shew, contained within itself, during its long continuance in Italy, modifications similar to those of Gothic architecture, in other countries. The names affixed to styles of architecture, originate, either from the nations who have practised them, or, from an attempt to express their chief characteristics. "Roman Architecture" was applied in the manner first mentioned, but has become a recognised term for a particular character of design. "Romanesque," in the same, way is best used as a general appellation for all styles, which display their Roman *origin*. We exclude the term from the style of the Christian basilica, because we contend that it is not Romanesque, but *Roman*,—later perhaps than Constantine, yet produced whilst the empire existed, and differing not more from the style, which prevailed at Baalbec and Palmyra, than the architecture of that epoch did from the almost Grecian style of the Pantheon. The terms "Christian" and "Pagan" will sufficiently distinguish the style of the ecclesiastic basilica, and that of the judicial basilica and the temple. The term "Lombard" is applied to the style of Lombardy and the Rhine, country, not only because they were united under the dynasty of Charlemagne, and the connection subsisted long subsequently, but because there are marked characteristics, distinguishing that style from other varieties of Romanesque, as we have shewn in the case of Pisa Cathedral. The Romanesque, or its Lombard variety, remained long subsequent to the introduction of Gothic architecture. Lucca Cathe-

* See the "Architecture of Pisa," page 375.

† *Quarterly Review*, March 1845, "Gally Knight, and Bunsen, on Ecclesiastical Architecture," noticed at length in The Builder, Vol. III.

* The author of the "Theatrum Basilicæ Pisanæ" has some remarks on the position—eastward, or westward—of altars.

dral was erected in a style of great magnificence, the façade following the general arrangement of that at Pisa; the style intermingled with the Gothic, and is discoverable down to the time of Bramante. Few churches are there, which are entirely Gothic, of which the origin is not directly traceable, as at Vercelli and Milan, to foreign influence. The vertical principle was scarcely reached, and the horizontal never discarded. The architects seem to have been unwilling parties to the innovation, or consoled themselves by a devotion to the sister art of sculpture, which Gothic architecture in Italy strikingly exemplifies. Indeed, the Romanesque style, and that of the Revival, are often confounded, because the one is in fact the continuance of the other. When Brunelleschi strove to supplant the Gothic style—EXOTIC, though then, Rome excepted, paramount in Italy—he recurred, not to the style of Lombardy, but to the cœval Roman architecture of the church degli Apostoli, at Florence, and to the ancient remains, and the existing practice of that, which had thus proudly asserted itself "the eternal city." Succeeding masters added new inventions, and thus "Italian architecture" became a style, whose wonderful variety, and capability of modification, we are too apt in the ardour of archæological investigation to forget. E. H.

NEW WAREHOUSE IN THE LONDON DOCKS.

A NEW warehouse for general produce is now being built on the west quay, under the direction of Mr. W. J. Nesham, the resident engineer, and deserves a note for its size and the soundness of its construction. The length is 234 feet 6 in., and the width 189 feet 3 in., so that it covers more than an acre of ground. The whole space is vaulted underneath, and is divided into five compartments by walls, having openings filled by double wrought-iron doors. It is five stories high, each story being 11 feet from floor to floor. The capacity is, for general goods, 14,000 tons, and there is room in the vaults for 4,300 butts of wine, if piled two high, if three high, one quarter more. The centre is lighted from a well-hole 68 feet by 35 feet. This is roofed over immediately above the ground story, having a continuous skylight, and is vaulted underneath. The windows opening into the well-hole have iron hutters.

The bottom of the concrete on which the walls and columns stand is from 17 to 18 feet below the vault floor, and is laid in trenches, to the depth in some places of 11 or 12 feet.* The walls are five bricks thick at basement, and gradually diminish to two bricks at top floor, faced with malim paviors, and strengthened by inside piers, projecting 9 and 14 in., which take the ends of girders.

In each story is to be constructed, in cement, a belt of brickwork, 12 in. high, having eight tiers of 1½ by $\frac{1}{16}$ in. wrought-iron hoop bond, well lapped at the joints, and at the level of each floor, iron bond 4 by ⅜ in. is to be built in cement; the joists connected with this by wrought-iron straps 2 feet 6 in. long by 2 in. by ¼ in.

The arches in vaults are "waggon-headed," and spring from cast-iron girders. They are about 18 feet span, 3 feet 6 in. rise, and formed with 1½ brick in cement; in every alternate bay are 1¼ in. wrought-iron tension bolts, passing through the arches at half their height, and screwed to the girders.

The columns which support the different floors are of cast-iron, hollow, and are placed 11 feet 10 inches apart longitudinally, and 18 feet apart transversely; the diameter in the basement is 15 inches, and in the top floor 7 inches.

The iron girders in basement are laid longitudinally with the building, and are fish-backed, and of an inverted Y shape; the upper portion is 2 inches thick, and the legs 1¼ inch thick, jointed over every column; the depth at ends is 2 feet, and in the centre 2 feet 3 inches. The floors have wood girders laid transversly with the building; these are in two flitches 14 inches by 12 inches each, and are supported by wrought-iron festoon bars in the manner of a truss, secured at the ends to columns.

The roofs are about 36 feet span, and have a quarter pitch. The principal timbers are 9 inches by 4½ inches; purlins 7 inches by 4½ inches; common rafters 4 inches by 2 inches; and struts 4½ inches by 3 inches. The framing is tied with wrought-iron queen bolts having cast-iron heads, plates, and nuts; the principal timbers have cast-iron shoes and abutment plates.

The ground story will be paved with 2½-inch Rockhill stone in large pieces, and the joints sawn, laid on concrete over the arches and bedded in mortar.

The amount of the contract, as entered into by Mr. William Cubitt, of Grays-Inn-road, is 81,000*l.*; the time allotted for its completion, is twelve months from the date of commencement.

It is worthy of remark, in these competing times, that, duly appreciating the integrity and skill of their builder, Mr. William Cubitt, the directors and their architect were contented to receive his tender alone, and upon that to give him the execution of the works. We applaud them for such a course, and are glad of the opportunity to express our opinion of Mr. William Cubitt's worth.*

* The concrete is formed with one part of ground stone-lime and six of clean Thames ballast.

* In Mr. Nesham's office we examined with much interest, a model of the docks and surrounding neighbourhood, made, in spare time, to a scale of 1½ inch to 100 feet, by Mr. F. Barnes, Mr. Nesham's assistant. Those who thus apply themselves, enter warmly into the business entrusted to them, and so finding their duty their pleasure, deserve commendation.

CIRENCESTER CHURCH AND TOWN-HALL.

THE length to which the notice of the proceedings of the British Archæological Association extended, prevented us from dwelling at the time on the architectural peculiarities of the edifices visited by them at Cirencester and Tewkesbury. A few words now will not be out of place, and may be useful.

The parish church of Cirencester is an extremely interesting building, and deserves to be more fully illustrated than it has yet been. The main body of the church is of the 15th century (perpendicular), but there are parts at the east end, particularly on the south side, which belong to the 13th. The aisles of the nave and chancel are exceedingly lofty, and the proportions of the columns and arches, which separate them, very beautiful. The wood roofs, of which there are several varieties, are extremely fine: that in the Trinity Chapel (north side the nave) is peculiarly interesting, and may be studied with advantage. The carving in this, especially at the east end of it, is excellent. In the body of the church there is also some extremely good carving in screens and elsewhere. The wood work of some of the roofs is in a very bad state, and should be attended to in time.

The stone corbels which receive the wood roofs, consisting generally of angels holding shields, are very large: one of them commemorates Alice Avening, who contributed largely towards the erection of the church, and died in 1501. The tower of the church is remarkable for its beauty.

The most striking feature of this church is the noble south porch, fronting the market place, a valuable example of civil architecture of the late perpendicular period. The front is 38 feet wide and above 50 feet high to the top of the parapet. It is divided into three irregular compartments by buttresses (terminating with pinnacles), on the face of which are twelve canopied niches once filled with figures of the Apostles. The whole face of the building, where not occupied by doors and bay windows to light the apartment over the porch, is covered with panelling and enriched with carving.

Within the porch, on the east side, is a stone table projecting from the wall, the purpose of which is obscure.

A few years ago, the whole of the front was taken down and then replaced stone by stone, apparently with good discretion. Mr. P. F. Robinson, the architect, was in some way concerned, we believe, in this restoration; but the account given on the spot is, that it was effected by a mason of the town without professional assistance.

The upper part of the building, over the entrance to the church, is the town hall, and is used for parish meetings.

Mr. Mullings, of Cirencester, to whom the association were much indebted for aiding them in their examination of the town, forwarded to one of the meetings a translation of an extract from the vestry book of the parish, being a permission from Bishop Nicholson to the rector and churchwardens to "dispose of the building aforesaid to such public uses as might be approved of by the bishop," provided that the profits thereof be applied to the restoration of the "said famous parish structure." This is dated August 23, 1671, and the following memorandum is added:—"Upon this grant of my Lord Bishop Nicholson, by the fitting up of leases, this place was repaired and fitted for a town hall, wherein the general sessions for the peace for this county was held this year, April 16th, 1672."

The grant commences thus:—"William, by divine permission, Bishop of Gloucester, &c. Whereas a noble frontispiece hath anciently been annexed to the parish church of Cirencester, in the diocese of Gloucester, on the south side of the said church, piously founded by the munificence of Alice Avening, commonly called the *Vice*, instead of *Device* (*quasi* device), because, as is reported, the said frontispiece is so contrived that only one window of the church being darkened thereby, it wonderfully adorns that magnificent structure, and appearing with great splendour before the ancient porch or entrance into the said church, it doth extend itself toward the market place in a stately pile."

It seems to us that the derivation here found for the name by which the porch was then known, the Vice, can scarcely be correct. It was more probably an abbreviation of *Parvise*, or *Pervyse*, an old word which signified both the porch, and the court in front of a church or other large structure.

In "A description of the form and manner, how and by what orders and customs the state of the fellowship of the middle temple is maintained," written in the reign of Henry VIII., a complaint is made that the learners have no place to walk in and confer their learnings but the church, "which place all the terme-times hath in it no more quietnesse than the *pervyse of Paul's* (cathedral), by occasion of the confluence and concourse of such as are suters in the law."

The room over a porch was sometimes called a parvise; and, it would seem, was occasionally used as a school-room or a law-court. Chaucer speaks of—

> "A sargeant-at-law ware and wise,
> That had often been at the *parvyse*."

Parvis is current French for a court before a church porch; and if we remember rightly, there is written on the outside of the west end of the cathedral church of Paris,—*Le Parvis de Notre Dame.*

In Cirencester there are many other objects of interest besides the church, chiefly relating to that early time when the Romans had dominion there, and called it *Corinium*; a fine Corinthian capital, in Miss Master's grounds, with figures in the foliage, a tesselated pavement at Barton Farm, of beautiful workmanship, and an extensive Roman amphitheatre. The column to which the capital belonged must have been from thirty to forty feet high—shewing, with the pavements found in the neighbourhood, and other *vestigia*, the former importance of the place, the degree of excellence achieved there in building operations, and the extent to which they were carried.

Enough, however, for the present, of Cirencester; and in our next we will say a few words on

TEWKESBURY.

LOODIANAH BARRACKS.—Much interest is still excited by the question how it came to pass that barracks built for British soldiers should be blown down, while every other house—those of officers included—stood the storm which sacrificed so many of the "common Europeans," as our Indian nabobs call many of their own fellow-countrymen. It seems that a large fortune has been amassed (and if thus no wonder) by an ignorant half-caste, to whose architectural acquirements the executive engineer is said to have trusted, in the erection of these barracks, and who was afterwards turned out of employment for roguery.

TO MAKE TRACING PAPER.—Mix six parts (by weight) of spirits of turpentine, one of resin, and one of boiled nut oil, and lay on with a brush or sponge. We find this produces a tracing paper that leaves nothing to be desired.—*Mechanics' Magazine.*

EXHIBITION OF WORKS PURCHASED BY THE ART-UNION OF LONDON.

The number of works of art gathered together in the Suffolk-street Gallery on the present occasion is 264, and includes the selected model for the 500*l.* premium ("The Dancing Girl reposing," by Marshall, A.R.A.), and "The First Whisper of Love," executed in marble by the same artist, for Sir Erskine Perry, a prize-holder of last year — both charming works. David Roberts, R.A., Danby, A.R.A., Witherington, R.A., A. Cooper, R.A., Lee, R.A., Ward, R.A., Hurlstone, Severn, F. Stone, Pyne, J. Allen, Bright, Bentley, Mrs. McIan, Woolmer, Tennant, Goodall, T. F. Marshall, Herring, Anthony, Topham, Lauder, Elmore, Clint, F. R. Pickersgill, Wingfield, Wilson, Clater, Linnell, Fraser, and in the water-colour room, H. Warren, Gastineau, Copley Fielding, Edward Corbould, Prout, Oakley, Callow, De Wint, Robins, Stephanoff, Jenkins, Absolon, and many others equally well known, have pictures in the collection. It is an exceedingly interesting exhibition; and, when it is considered how limited after all the range for selection is, through the prior arrangements of the now greatly increased number of private purchasers,—speaks very satisfactorily for the intelligence of the prizeholders. Many of the pictures are now *seen* for the first time, although previously exhibited elsewhere, and give striking evidence of the importance to an artist, of proper hanging.

Of the pictures here exhibited, it is not too much to say, three-fourths would have remained unsold but for the Art-Union of London, a fact more important still to artists, although not all-important in the eyes of those who view the important operations of the society rightly, and see that its great purpose is to lead the public to love art and study it, a truth, which some members of Parliament who spoke against the bill (now we are happy to say, the Act) for legalizing Art-Unions, seemed strangely ignorant of. Increase the capacity of the judges, elevate the standard of judgment, make the artists' public larger, and his profession more stable and honourable, and art can scarcely fail to be advanced.

We look on the free exhibition provided annually for the public by the Art-Unions, as a most important feature in the scheme, calculated to produce great results. For the next fortnight, persons will be admitted by tickets, easily obtainable from any member (more than a hundred thousand have been issued), and between the 6th and 12th of September all who apply will be admitted without restriction.

The Duke of Cambridge was present at the private view on Saturday, and was attended round the rooms by Mr. Lewis Pocock. His Royal Highness continues to manifest the warmest interest in the progress of the society.

We may take this opportunity to mention, that the committee, with the view of expressing the good opinion they entertain of a model exhibited in their late sculpture competition under the title of "Innocence," and found to be the production of Mr. Foley, have awarded to that gentleman the sum of 100*l.*, on condition of receiving from him a reduced copy, to be executed in porcelain for distribution.

Another of the models, "Iris Ascending," by Mr. Kirk, is to be reduced for the purpose of casting in bronze.

CONSTRUCTION OF RAILWAYS.

THE PERMANENT WAY.

Sir,—It appears now to be the general opinion, that one of the greatest obstacles to the safe increase of speed on railways does not arise from the construction, power, or capability of speed of the locomotive engine, but from the manifest imperfection of the permanent way: the resistance of the atmosphere limits the aspiring genius of the engineer.

The numerous accidents that have occurred on railways, which have proved so fatal in their nature, have been too often attributed to some defect in the engine or the carriages, whereas in all probability the cause has arisen from a badly constructed road.

Many of the accidents might doubtless have been avoided if a better system of supervision had been adopted, and inspectors appointed at frequent intervals, (not by the contractors for the permanent way, whose object is to get work done at as cheap a rate as possible,) but by some more responsible party, whose sole duty should be to examine every part of the line of railway *daily*, and cause to be remedied immediately any casualty as soon as possible after it appears.

Engineers are at great pains in setting out railway curves with mathematical accuracy, (and even learned and abstruse works have been published on the subject,) and when those curves are so set out, the roadways are composed of a series of straight bars or rails forming a series of tangents to those curves, thereby creating numerous rigid points that must add considerably to the friction, and consequently the wear and tear of the engine, carriages, and permanent way. On curves of small radius this is an evil of considerable magnitude, and should be remedied by having the railway bars formed or set accurately to the curve, as laid down for the line of railway.

It is evident the more perfect the road is laid in all its parts, the less will be the liability to accident; and no expense or trouble ought to be spared in rendering the permanent way of a railway the most perfect possible.

Accidents sometimes occur from bad joints, or in consequence of one rail projecting slightly before the other at the joint; rails should be truly fitted where they butt together, and made perfectly flush with each other; and to preserve them in that position, I would recommend them to be dovetailed into each other, at the same time making a small allowance for the expansion and contraction of the metal longitudinally.

It has been stated, that accidents have occurred in consequence of the ends of rails working out of the joint chairs; but as this could not occur where the system of continuous bearing is adopted, I presume it has been where transverse sleepers or blocks are used; and the simple remedy I would recommend of driving short piles on each side of the joint sleeper or block would, I think, prove effectual in such cases; or the end of each rail might be keyed to the joint chair, and the hole in the rail slotted (made oblong) slightly, so as to allow it to expand or contract with the changes of the atmosphere, and without disturbing the roadway, which would answer a similar purpose.

I am, Sir, &c., B. Baylis.

Merthyr Tydfil, Aug. 10, 1846.

FOREIGN ARCHITECTURAL AND COLLATERAL INTELLIGENCE.

Origin of Architecture.—The celebrated German architectural writer, J. Andrew *Romberg*, in a very interesting work commenced some time ago,* makes the following remarks on the above subject:—"The question whether stone or wood structures be more ancient, and whether the building endeavours of man *originated* in caverns—is, after all, an idle one, as it was the locality and nature of the country which, in all cases, *determined* its architecture. When only wood was at hand, it certainly served as the primæval material of construction. When stone was to be met with, it was combined into walls, first for mere protection from weather, &c. Where, like in the steppes and saharas of Asia and Africa, neither wood nor stone was to be found, tents of beasts' skins served for the dwellings and temples of man, or they dug out holes in the soil to live in. It is certain, moreover, that the most simple and easiest construction is always the *oldest*, as the more complicated pre-supposes great practice and many helps of mechanics and art. Mr. Romberg, therefore, contends throughout his work for the opinion, that the huge Indian cave-temples are *not* the oldest, but of a later date than the pagodas built in the open country. For excavating caves and caverns into such huge spaces, great mechanical power, many complicated calculations and computations, and much refinement of art were required; far more, indeed, than for the piling up those pyramid-shaped structures of the plains. The latter, therefore, were the first constructed, which Mr. R. also finds confirmed by other collateral testimony. Mr. Romberg's work treats first of the pagoda-temples, and describes every one of any consequence. Then follow the cavern-temples. The chapter on Indian cities and fortresses is very interesting, shewing that that country possessed larger and finer cities before our era, destroyed by the Mahomedan invaders. This part of the work concludes with a theoretical disquisition on Indian styles of architecture, in which its many *orders* are detailed, partly after *original* Indian sources, which have not yet been generally resorted to by architectural authors.

* *Romberg* und *Steger*' Geschichte der Baukunst—History of Architecture from the earliest period up to the present time. Vol. I. Introduction and History of Indian Architecture. Leipzig. 1844. fol.

The Royal China and Painted Glass Manufactories of Munich.—Those two important *State* establishments of art which had been hitherto combined in one building—probably for no other reason than that of both requiring the same *element*, have now been divided; and that for glass painting has been removed to an especial building in Louisa-street, behind the Glyptothek, which has been executed by Architect Professor Voit, advised by the director of the establishment, Mr. de Hess, and Inspector Ainmüller. Of the forty-two larger and smaller spaces, the greater portion is appropriated to the execution of the glass paintings, the dwelling of the director, &c. There is a chemical laboratory for the preparing of the colours, a great *furnace-hall*, with a number of stoves, in which the paintings are fired, and many rooms for their successive preparation. The chief space, however, is the large exhibition, or rather *viewing hall*, in which, at a window, forty-two feet high and twenty feet broad, the largest glass paintings are placed in their single parts, and then, as a whole. For judging and arranging their final grand effect, three galleries, placed around at different heights, afford a view of these huge pieces from different angles of vision; and there is a machine in the room, by which a scaffolding is moved in every direction, so that the artists and workmen can approach any portion of the huge glass paintings with perfect ease. Great progress has been made in this establishment even since the first astonishingly successful trials for Regensburg, and that so much admired cycle of pictures executed for the church of St. Mary in the *Au;* and the adhering to a perfectly *stern* style, as well as the choice variety and solidity of the colours, have raised this establishment above all others of a similar kind. Besides the huge windows ordered by the King of Bavaria for the Dome of Cologne, there are now making five large ones for the cathedral of Agram, besides others for St. Petersburg, England, &c.; all which give honourable employment to a number of artists and workmen, and trumpet forth the fame of the art-school of the Bavarian capital.

Restoration of the Old City Hall of Aix-la-Chapelle.—This hall, of great antiquity, possesses at its west end two recesses, which, separated by lattice work, served for the reception of the orchestra, servants, &c. These spaces will now be united to the whole, and, adorned by frescoes, will form a most striking and beautiful town-hall. The statues of German emperors, which encumbered once this place, will not be again replaced by the Prussian Commission of Arts.

Architect Osten, from Hanover—who had sojourned for a considerable time at Rome, has returned home to execute several important structures, and to publish a work on Longabardic architecture in North Italy.

Monument to the ancient Architect, John Hülz.—The sculptor, Andrew Friedrich, at Strasburg, who had previously executed at his own expense a monument to Erwin, the builder of the Strasburg minster, at the native place of the latter, Steinbach, near Baden, has made to the corporation of Cologne the offer to execute a statue of John Hülz, a native of that city, who had completed the top of the Strasburg Cathedral. It is to be made of Kronthal sandstone, and placed in St. Andrew's Church, near the dome.

The Mineral riches of the Isthmus of Panama.—At the present moment, when either the cutting of a canal through the American Isthmus, or the making of a railway, or both, are nigh to be accomplished, a report on the mineral riches of that locality has been widely circulated in the French periodicals, which, as the name of Baron Thénard has been introduced therein, deserves some attention. It is said that a distinguished French engineer, on surveying the Isthmus for professional purposes, has discovered gold in the sand of the seashore, the amount of which he calculates at five milliards of francs. The construction of a canal or railway would be paid a hundredfold by the gaining of this precious metal, &c.

Late Excavations at Pompeii.—The locality chosen for the late excavations made in honour of the Prince of Fürstenberg was that adjoining the large house which had been opened at the meeting of the late Scientific Congress in Naples. After the stratum of *Lapilli*, about two feet high, had been removed, a number of door hinges, locks, nails, screws, and the like were found, all covered with a thick brown crust of oxide of iron. Amongst the many other objects, a door-knocker, with the underplate appertaining to it, both of fine workmanship—the mountings of several garden implements, the bronze ornaments of chairs, armchairs, *Lectisternia*, hoops, and postaments of flower-pots—a cylindrical waterpail of lead, 4 feet high and 1½ feet diameter, with tasteful garlands and ornaments in embossed work, were brought to light. The terra-cottas which had once adorned the roof of this mansion were numerous; spouts which sent forth the water in the shape of lions' heads, &c. In one room were found fourteen slabs of different kinds of marble, and they were placed on the wall, just as they had been sawed asunder, eighteen hundred years ago! They were 8 feet by 4, and consisted of Phrygian and Bythinian marble, African *breccia*, verde antico, and a very rare sort of serpentine. The excavation was ably directed by Mr. Carlo Bonucci; and to complete the success of this operation, some beautiful and very interesting wall-pictures (frescoes) were found, whose description will be shortly given by Mr. B.

Dome of Cologne.—The completion of this vast ancient structure is the *punctum saliens*, around which all architectural endeavours of Germany are at present oscillating. A very important question was mooted, of late, at Cologne—viz., whether the meetings of the *directing committee* should be public. It seems that the activity of that body has been somewhat cramped, which was thought to be remedied if their resolutions were tested and supported by the *public voice*. Other considerations, however, seemed to prevail, and the publicity above alluded to was *negatived* by 1,900 against 500 votes. The construction goes on, notwithstanding, prosperously, and the entrances of the south and north portal are already arched over, and both will probably, by next autumn, be raised up to the first gallery, and then the lateral naves of the side wings will also be arched over. The construction of the portals has given rise to a curious controversy, as it was asserted on several sides, that a socle, found on the north side of the dome, exhibited the plan intended by the original builder; and that the commenced construction of the south portal was not in accordance with that socle, and therefore with the original plan. Much pains had been taken to controvert that assertion, oppositional to the intentions of the dome building committee. The truth of it is, however, best confirmed by the now progressing construction of the north portal, which is done in accordance with the clearly proved original plan.

Imperial Academy of Sciences of Vienna.—It seems that this tardy concession to the demands of the Austrian *savans*, will be of a very narrow and restricted character, comprehending *merely* natural history and philology. The *sciences morales et politiques*, which, implying the whole system of *social* improvements of the age, and on the culture of which the Institute of France and Belgium lay such great stress, will be altogether *avoided*. The donation also of 7,000*l.* per annum, seems to us very inadequate, as half of the members, besides the president, are to be salaried. The Institute of France receives at least double that sum from Government, besides large bequests, &c.

The Iron Foundries of Sweden.—The taking off of the restrictions with which hitherto *national* industry has been shackled in most countries, is to be also applied to the above important branch. Up to the present time, only those forges in Sweden were permitted to make wrought iron which produced a certain annual amount of cast-iron. This restriction is now to be taken off, which will especially benefit the smaller sort of producers.

Large Tunnel in the Styrian Mountains of the Vienna Trieste Line.—Austrian journals call the tunnel of the Leitersberg a giant's work of subterraneous architecture. The way from Gratz to Marburg is said to abound in objects of well-executed workmanship, amongst which the above excavation of 353 klafter (cubits) is the most important. The tunnel is 25 feet broad by 24 feet in height, and is thoroughly vaulted in. This tunnel was excavated by miners, and the *débris* of the mountain, which was not solid rock, but brittle sandstone, carried out by several pits sunk to the depth of the tunnel. The construction was the more difficult, as the plane of the rails lies 25 klafter under the surface of the surrounding terrain, and the pressure of the superjacent strata of soil, exercised, especially in the wet season, an uncommon pressure on the vaults in construction. Still, as it is, it is the greatest structural work of the kind in the Austrian realm.

*Progress of Stereochromy.**—This new process of mural (fresco) painting, has received a great impulse, by its being, of late, adopted by Kaulbach, who, after a few trials, has so far identified himself with this new method, that he manages it with the same ease as oil or fresco colours. Mr. K. has exhibited several stereochromic pictures in his atelier, which have been generally approved of. It has assumed under his hands a lustre and warmth of colour, as well as a pliability of execution, which surpasses every expectation, and he will now execute a large stereochromic fresco picture, for which he has completed the cartoon.

J. L——v.

RAILWAY JOTTINGS.

A RAILWAY BOARD has been recommended in a recent report of the Select Committee on Railway Acts, as a distinct department of the executive Government, with engineers and other officers of its own, and "possessing all the powers, and executing all the duties now possessed and exercised by the Board of Trade, and such additional powers as may be necessary" in the "supervision of all railways and canals in any way connected with railways."——From tabular details (exclusive of additional and still more recent and considerable items), it appears that the royal assent has been given during the present session of Parliament, to Acts authorizing the construction of no less than 3,672 miles of railway, with a capital of 90,540,938*l.*, besides power to borrow 38,688,829*l.* more, making the total amount *to be raised* (how, it is not for us to guess) little less than 130,000,000*l.* sterling, a sum equal to a very considerable proportion of the whole of that enormous incubus which we already labour under, and *cannot raise*, viz., the national debt itself.——The Earl of Clarendon has declared his intention of providing a remedy against the practice of opening parcels on railways, claimed by certain companies, as recently complained of.——The wholesale advantages derivable from railway conveyance were somewhat strikingly evinced on a recent occasion, when a large body of poor Irish labourers engaged a number of trucks for their own accommodation (at the usual charges, we presume), and in which they were conveyed from Liverpool to Rugby, *viâ* Birmingham, at a cost of four shillings per man, for a distance of 128 miles, or at the rate of one farthing and a half per mile for each. There were five trucks, each accommodating fifty-seven men.——The South Western Railway Company, it is said, have contributed 100*l.* to the fund for defraying the local expenses connected with the approaching congress of the British Association at Southampton.——The *Railway Times* gives the following account of the improvements, extensions, and other works originating in the recent fusion of the London and Birmingham, the Grand Junction, and the Liverpool and Manchester Railway Companies into one grand undertaking, named, the London and North-Western. "At Euston-square and Camden Town whole streets are to be demolished in order to extend the means of public accommodation. At Wolverton a little colony of men is busily at work building new and extensive houses for the reception of the immense number of locomotives belonging to the company. At the smaller stations between London and Birmingham, the welcome hand of improvement is every where to be seen. In Birmingham alterations and improvements are about to be commenced which will be worthy of the importance of the place as the central locomotive station of the country. Further on at Crewe, vast extensions are being made, and noble buildings being erected to accommodate the traffic which, in an unbroken stream, flows to that great 'railway fork'—three pronged at present, but which, ere long, will have three or four additional teeth. At the great terminus in Liverpool the alterations are being conducted on the most magnificent scale. The great tunnel, which from Liverpool is the outlet to all the world, is being ripped up for a portion of its length, in order to admit of new stations, extensive sheds, and commodious offices of all descriptions. The alterations in Liverpool are upon the most tremendous scale. They include a tunnel right under the town—a tunnel of some miles in length. Altogether, the steps which are being taken for the accommodation of the public are most extensive, and must, ultimately, be highly beneficial."——Contracts have been taken for 8,000 tons of plates of the best description, for the construction of the iron tunnel by which it is proposed to pass the Menai Straits for the passage of railway trains. Of these 8,000 tons, 2,000 have been taken by Mr. Walter Williams, 1,500 by Messrs. Bramah, Barrows, and Hall, 1,000 by Messrs. Thorneycroft and Co., 1,500 by Messrs. James Foster and Co., 1,000 by the Coalbrook-dale Company, and 1,000 by the Butterly Company.——An iron bridge, erected over a chasm in the line of the Waterford and Limerick Railway, broke completely down on Wednesday week, while fifty persons, one horse, and a cart where on it. Fortunately the only life lost was that of the horse. It is said that the bridge was but temporarily and hastily erected (chiefly by night) for the accommodation of passengers at the Limerick cattle show. The efficiency of the principle on which it has been constructed is said to have been already fully tested in America.——A great many masons hitherto employed on a railway line at Markinch, in Scotland, have struck for an advance of wages, from 23*s.* to 24*s.* a week, with no deductions for doctor's fees; and if not paid fortnightly, for 25*s.* a week with monthly payments.——In the United States of America, 10,500 miles of railway are now open to traffic.——From a long engineering report to the East-India Company, on the practicability of introducing railways into India, it appears that "the great extent of its vast plains, which may in some directions, be traversed for hundreds of miles without encountering any serious undulations, the small outlay required for Parliamentary or legislative purposes, the low value of land, cheapness of labour, and general facilities for procuring building materials, may all be quoted as reasons why the introduction of a system of railroads is applicable to India." And as to obstacles peculiar to the climate and circumstances of the country, such as periodical rains and inundations, violent winds, ravages of insects and vermin upon timber and earth-work, rapid growth of underwood on earth and brick-work, open state of the country, &c., these, it is thought, are by no means insurmountable. A comparatively short line is suggested to begin with, between Calcutta and Mirzapore; continued, perhaps, between Mirzapore and Delhi.——A new claimant for the original invention of the electric telegraph has appeared in the person of an aged gentleman, Mr. Samuel Porter, of Hill-house, Harrow-weald, who, in a communication to the *Times*, of date 13th inst., prompted by the very natural and justifiable desire to connect his own name with his own invention ere he die, declares that, twenty-one years since, he laid the project of the electric telegraph before the Lords Commissioners of the Admiralty; but that, for ten or twelve years thereafter, "it was regarded as the wild effusion of a deluded fancy; and when its virtues began to be unfolded, its origin was attributed to persons merely engaged in constructing apparatus for the working of it."——The commercial advantages derivable from this noble invention were strikingly tested between Leeds and Birmingham on Monday last, at twelve, noon, when the Leeds Commercial Banking Company suspended business. In a quarter of an hour the fact was proclaimed in Birmingham, through the Midland line of telegraph, and the intimation was immediately made to the various banks and public offices; and much confusion, and many lawsuits, in all probability, nipped in the bud.

* Page 422, Vol. III.

COTTAGE, SUTTON VALENCE, KENT.

COTTAGE AT SUTTON VALENCE, KENT.

In the ancient wooden or half timbered houses of England, we find that a particular kind or class predominated in or was peculiar to each county. In the north, in Cheshire and Shropshire, the half timbered house was very much ornamented, the small quartering was formed into geometrical or Gothic patterns, the posts or uprights carved to represent either pilasters, columns, or buttresses. Several large first class mansions still remain in the above counties. In the south, in Kent, Sussex, &c., few houses can be found above the class occupied by the yeoman or country squire, although there can be little doubt, that at the period when "None-Such" existed the southern part of the country, and the metropolis itself, abounded in the richest specimens of this picturesque style of architecture.

In Kent, the half timbered houses are called woodnoggen houses, and the pieces of timber or quarters used in their construction, are called wood-nogs. The woodwork is not formed into ornamental patterns as in the ancient houses in the North; but the gables, plates, and beams, are often ornamented, the windows have projecting cornices, sometimes very bold, and the door frames are moulded and enriched in a very peculiar style. The framework of the building is filled with brick nogging, which is plastered; this, in the best buildings, is ornamented by patterns stamped in it while wet, and afterwards coloured. Several examples remain where the plaster is covered with white flowers on a red or black ground.

The plaster in some cases is covered with small bits of glass of different colours adhering to its face—which when the sun shines has a very good effect. A substructure of rag stone or brick was always made, upon which the sills of the framing are placed. A good example of the Kentish wood noggen house of the latest class is given in the annexed print. This house is probably not above 180 years old. It stands at the end of the village of Sutton Valence, near Maidstone, and is occupied by a brewer. It is very little ornamented, but the large gables and the projecting porch render it an extremely picturesque object. Nearly every village of the county contains examples of a similar character. C. J. R.

THE STATE OF HENRY VII.'S CHAPEL, WESTMINSTER ABBEY.

Many have doubtless observed with concern, the effects of the late violent storm upon Henry the Seventh's Chapel: rotted portions of the stonework have been disengaged, or crumbled away, and the general and rapid decay of the exterior structure is now more than ever apparent.

The comparatively recent and costly restoration of this building affords a lamentable instance of the disregard to durability of material, or indifference to any sentiment of permanence, so widely manifested in our architecture. From this defect not only is the charge of sustaining and renewing ancient works one of serious magnitude, but their identity as scenes of the past becomes from the necessity of renewal gradually lost, and the valuable associations connected with them thereby weakened or put to flight.

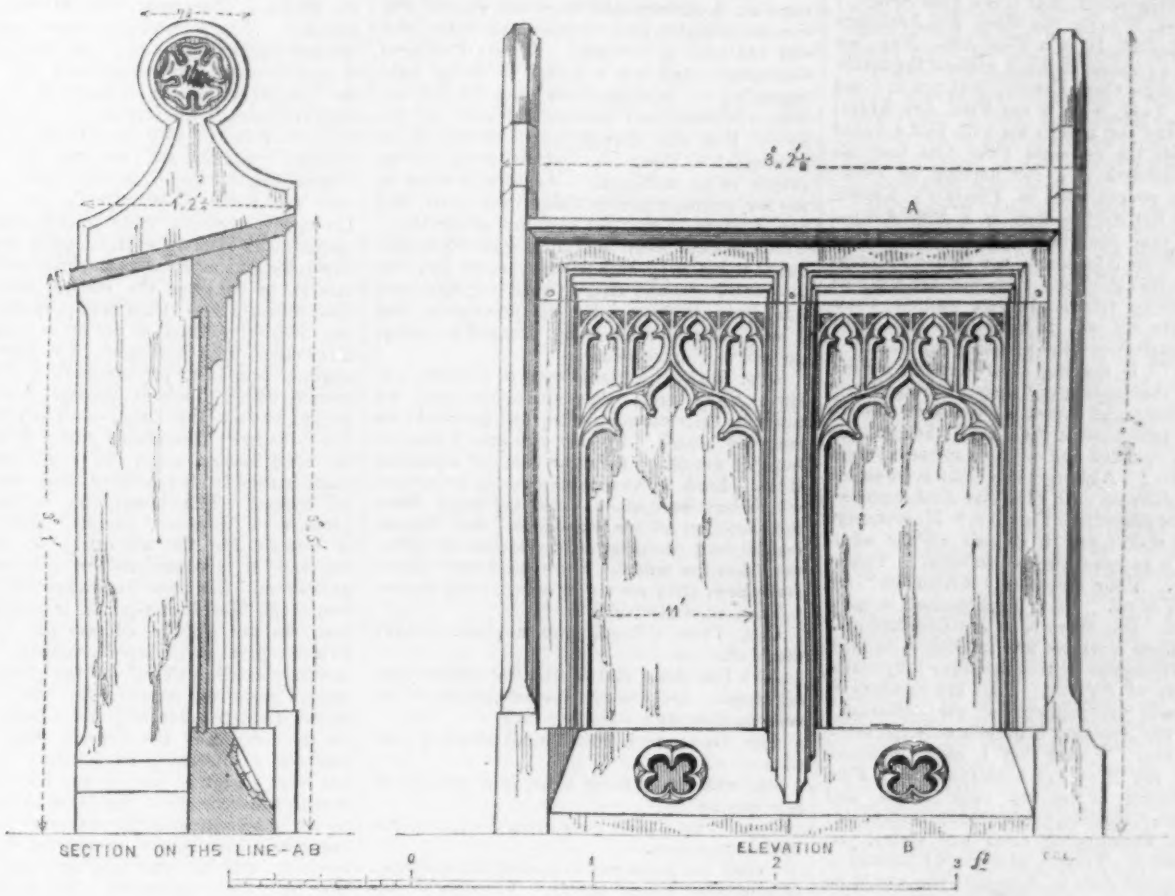
Could not, however, some means be adopted to secure the above beautiful fabric from further deterioration? The decayed parts supplied, and the whole of the present porous and perishing surface entered by a preparation, which might enable it to resist the corrosion of the weather?

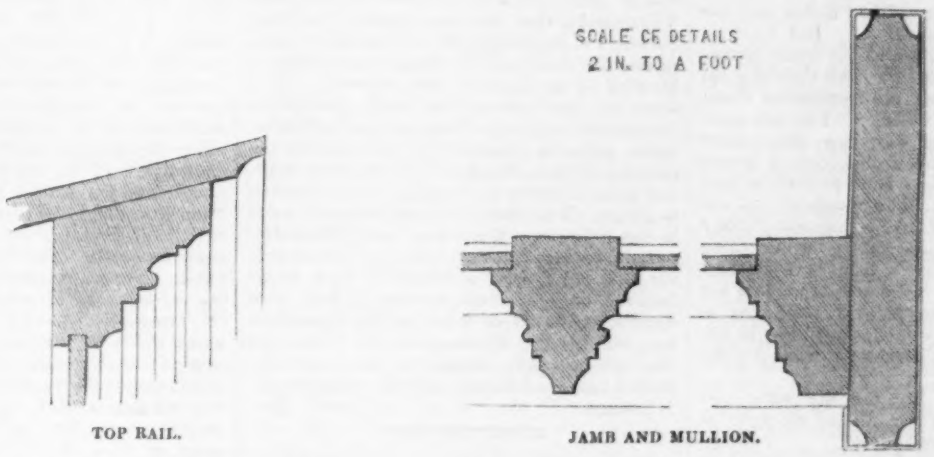
If a repair of some kind be determined on, an opportunity would be also afforded to correct any errors discovered to have been committed in the last restoration; nor would the replacing in the niches their appropriate statues, as of old, detract from the beauty and spirit of the edifice. H.

National Gallery.—The visitors to the National Gallery, it is shown in a Parliamentary paper yesterday printed, numbered 456,105 in 1843; 681,845 in 1844; and 696,245 in 1845. The pictures purchased for that institution amounted to 114,804*l.* 16*s.*, for twenty-seven of which 57,804*l.* 16*s.* were paid.

British Museum.—By an amended return yesterday issued, it appears that in 1843, 604,318 persons visited the British Museum; 660,529 in 1844, and 763,831 in 1845.

LITANY DESK, WELLS CATHEDRAL.





TOP RAIL.

JAMB AND MULLION.

LITANY DESK FROM WELLS CATHEDRAL.

The accompanying details of an original litany desk, which for a long time was amongst lumber in the crypt of Wells Cathedral, will be found useful. It belongs to the 15th century, and is simple and effective.

THE GOVERNMENT SCHOOL OF DESIGN.

On Wednesday last the annual meeting was held in Somerset House to receive the director's report and distribute the prizes, when Mr. Bellenden Carr was in the chair, and Mr. B. Hawes, M.P., and Mr. Etty, R.A., addressed the meeting. The report set forth that the drawings rewarded, and which were exhibited, had not been made in competition, as heretofore, but were selected from the work of the year, and that no prizes had been expected. Mr. Hawes made some very judicious remarks on the value of the institution, and said its progress was identified with the progress of our manufactures. We regret that we cannot use the tone of gratulation adopted throughout the proceedings. We do not think the result such as a Government school of design, with Messrs. Townsend, Horsley, and C. J. Richardson for masters, might and ought to produce. Many of the drawings exhibited are admirably executed, but with one exception, we are speaking now of the male school, they are all copies; the exception is a set of three finger plates designed for the Duchess of Sutherland by Mr. Pearce. The system pursued is not equal to the wants of the pupils; it is copy, copy, copy, and nothing more. No development of principles, no endeavours to elicit original ability,—and the result is, that the pupils as they reach a certain stage, finding they can go no further, leave the establishment, which remains therefore a simple drawing school, and, under the present arrangement, will never get beyond it.

In the ladies' department, the exhibition is far more satisfactory; Mr. Etty even said, that some of the specimens were as good in their class as any thing he had ever seen, and reflected the highest credit on Mrs. McIan, the mistress. Indeed, we would not have it inferred, that no credit is due to the masters in the other school; the reverse is the case, and our remarks apply only to the system by which they themselves are trammelled and kept down. We were informed some time ago, that the director, Mr. Wilson, had forbidden the appearance of The Builder in the school, on account of the part we took on a former occasion. If this be true, it is very foolish, to say the best of it. We have no personal feeling in the question; our sole aim is to induce the adoption of such a system as may ensure the most perfect results, and in a matter so important as the National School of Design, we should fail in our duty to the public, if we allowed consideration for individual feelings to interfere with the honest expression of our opinion.

Previous to the meeting on Wednesday, a handsome vase was presented to the director by some of the pupils, leading us to suppose that a better feeling exists in the school than was the case some time ago. We heartily trust it may be so, and shall look anxiously for some important changes when the pupils again assemble.

COTTAGE, SUTTON VALENCE, KENT.

COTTAGE AT SUTTON VALENCE, KENT.

In the ancient wooden or half timbered houses of England, we find that a particular kind or class predominated in or was peculiar to each county. In the north, in Cheshire and Shropshire, the half timbered house was very much ornamented, the small quartering was formed into geometrical or Gothic patterns, the posts or uprights carved to represent either pilasters, columns, or buttresses. Several large first class mansions still remain in the above counties. In the south, in Kent, Sussex, &c., few houses can be found above the class occupied by the yeoman or country squire, although there can be little doubt, that at the period when "None-Such" existed the southern part of the country, and the metropolis itself, abounded in the richest specimens of this picturesque style of architecture.

In Kent, the half timbered houses are called woodnoggen houses, and the pieces of timber or quarters used in their construction, are called wood-nogs. The woodwork is not formed into ornamental patterns as in the ancient houses in the North; but the gables, plates, and beams, are often ornamented, the windows have projecting cornices, sometimes very bold, and the door frames are moulded and enriched in a very peculiar style. The framework of the building is filled with brick nogging, which is plastered; this, in the best buildings, is ornamented by patterns stamped in it while wet, and afterwards coloured. Several examples remain where the plaster is covered with white flowers on a red or black ground.

The plaster in some cases is covered with small bits of glass of different colours adhering to its face—which when the sun shines has a very good effect. A substructure of rag stone or brick was always made, upon which the sills of the framing are placed. A good example of the Kentish wood noggen house of the latest class is given in the annexed print. This house is probably not above 180 years old. It stands at the end of the village of Sutton Valence, near Maidstone, and is occupied by a brewer. It is very little ornamented, but the large gables and the projecting porch render it an extremely picturesque object. Nearly every village of the county contains examples of a similar character. C. J. R.

THE STATE OF HENRY VII.'S CHAPEL, WESTMINSTER ABBEY.

Many have doubtless observed with concern, the effects of the late violent storm upon Henry the Seventh's Chapel: rotted portions of the stonework have been disengaged, or crumbled away, and the general and rapid decay of the exterior structure is now more than ever apparent.

The comparatively recent and costly restoration of this building affords a lamentable instance of the disregard to durability of material, or indifference to any sentiment of permanence, so widely manifested in our architecture. From this defect not only is the charge of sustaining and renewing ancient works one of serious magnitude, but their identity as scenes of the past becomes from the necessity of renewal gradually lost, and the valuable associations connected with them thereby weakened or put to flight.

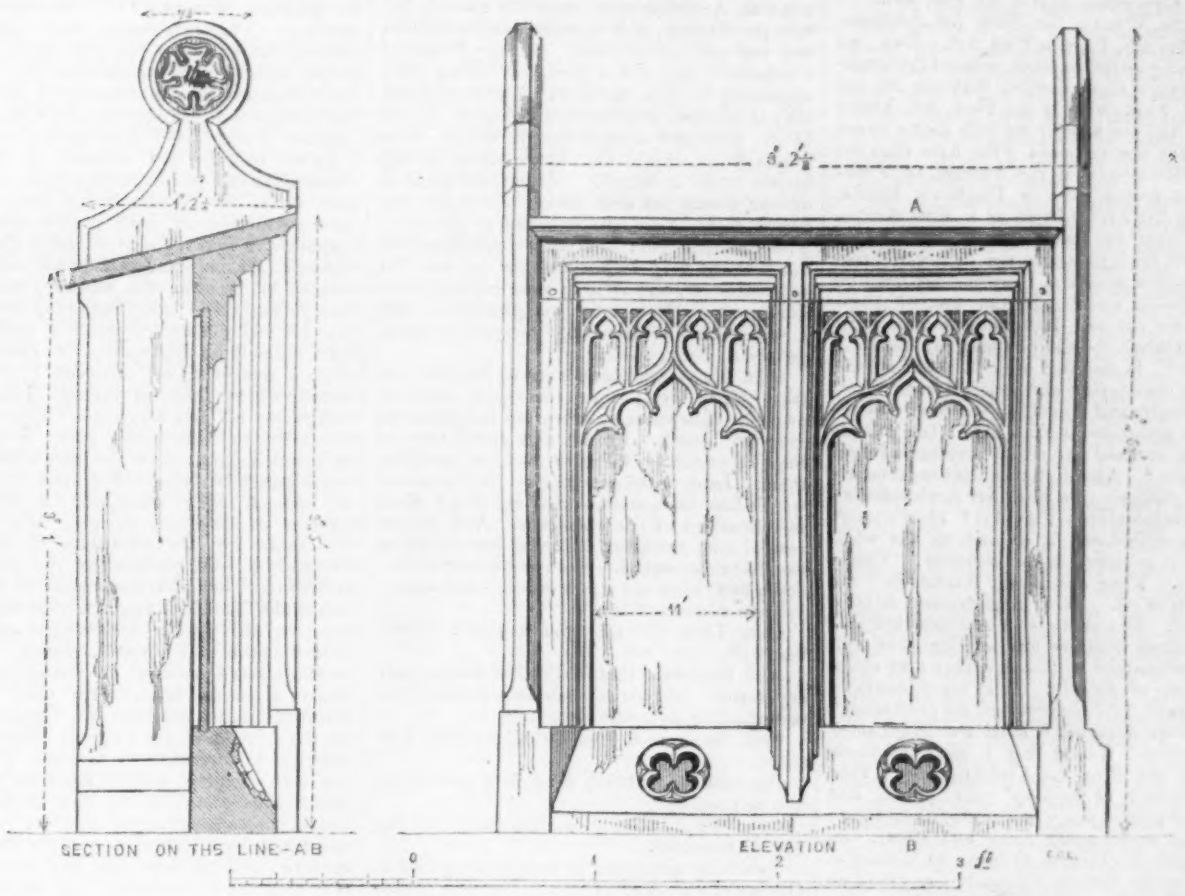
Could not, however, some means be adopted to secure the above beautiful fabric from further deterioration? The decayed parts supplied, and the whole of the present porous and perishing surface entered by a preparation, which might enable it to resist the corrosion of the weather?

If a repair of some kind be determined on, an opportunity would be also afforded to correct any errors discovered to have been committed in the last restoration; nor would the replacing in the niches their appropriate statues, as of old, detract from the beauty and spirit of the edifice. H.

National Gallery.—The visitors to the National Gallery, it is shown in a Parliamentary paper yesterday printed, numbered 456,105 in 1843; 681,845 in 1844; and 696,245 in 1845. The pictures purchased for that institution amounted to 114,804*l.* 16s., for twenty-seven of which 57,804*l.* 16s. were paid.

British Museum.—By an amended return yesterday issued, it appears that in 1843, 604,318 persons visited the British Museum; 660,529 in 1844, and 763,831 in 1845.

LITANY DESK, WELLS CATHEDRAL.



LITANY DESK FROM WELLS CATHEDRAL.

The accompanying details of an original litany desk, which for a long time was amongst lumber in the crypt of Wells Cathedral, will be found useful. It belongs to the 15th century, and is simple and effective.

THE GOVERNMENT SCHOOL OF DESIGN.

On Wednesday last the annual meeting was held in Somerset House to receive the director's report and distribute the prizes, when Mr. Bellenden Carr was in the chair, and Mr. B. Hawes, M.P., and Mr. Etty, R.A., addressed the meeting. The report set forth that the drawings rewarded, and which were exhibited, had not been made in competition, as heretofore, but were selected from the work of the year, and that no prizes had been expected. Mr. Hawes made some very judicious remarks on the value of the institution, and said its progress was identified with the progress of our manufactures. We regret that we cannot use the tone of gratulation adopted throughout the proceedings. We do not think the result such as a Government school of design, with Messrs. Townsend, Horsley, and C. J. Richardson for masters, might and ought to produce. Many of the drawings exhibited are admirably executed, but with one exception, we are speaking now of the male school, they are all copies; the exception is a set of three finger plates designed for the Duchess of Sutherland by Mr. Pearce. The system pursued is not equal to the wants of the pupils; it is copy, copy, copy, and nothing more. No development of principles, no endeavours to elicit original ability,—and the result is, that the pupils as they reach a certain stage, finding they can go no further, leave the establishment, which remains therefore a simple drawing school, and, under the present arrangement, will never get beyond it.

In the ladies' department, the exhibition is far more satisfactory; Mr. Etty even said, that some of the specimens were as good in their class as any thing he had ever seen, and reflected the highest credit on Mrs. McIan, the mistress. Indeed, we would not have it inferred, that no credit is due to the masters in the other school; the reverse is the case, and our remarks apply only to the system by which they themselves are trammelled and kept down. We were informed some time ago, that the director, Mr. Wilson, had forbidden the appearance of The Builder in the school, on account of the part we took on a former occasion. If this be true, it is very foolish, to say the best of it. We have no personal feeling in the question; our sole aim is to induce the adoption of such a system as may ensure the most perfect results, and in a matter so important as the National School of Design, we should fail in our duty to the public, if we allowed consideration for individual feelings to interfere with the honest expression of our opinion.

Previous to the meeting on Wednesday, a handsome vase was presented to the director by some of the pupils, leading us to suppose that a better feeling exists in the school than was the case some time ago. We heartily trust it may be so, and shall look anxiously for some important changes when the pupils again assemble.

THE YOUNG ARCHITECTS OF ENGLAND.

No. IV.*

Sir,—I have tried to shew what Art is—*real Art*. I have asked, what is Architecture? And I have many answers (No. II.) And I have at last declared, amidst much laughter from the Opposition, that it is a Fine Art.

Question, What is the Fine Art Architecture? Answer, It is a Fine Art. Nay, we could have guessed as much without thy teaching. Strange then, I reply, that you did not guess it. I ask, what is the Fine Art Architecture? and you answer me with half a dozen things that are no more Fine Arts than the Apollo Belvidere is a red herring, or Yorkminster a proposition in Playfair's Euclid. The Fine Art Architecture is a Fine Art;—shew me that you know this (I will not take your word for it),—shew me that you comprehend—feel this, and I say you are truly an Architect—an artist. If you cannot shew this *you are not so*. Is building a Fine Art? Is the contrivance—the planning of houses a Fine Art? Is looking after builders a Fine Art? Is the copying of "orders" from Vitruvius or Stuart and Revett a Fine Art? Is the study of antiquities a Fine Art? Is a scheme of design confined and set by a system of *styles* a Fine Art? Although this is the most nearly so, is it *fully* so—*the* Fine Art Architecture? But *is* Architecture a Fine Art? How strange that men should call it so and all the while speak of it as something so different! This is how it is. Your common "Architects" are *not artists at all*. *Their* Architecture is *not a Fine Art*. But there is *an* Architecture that is: and these worthies are intelligent enough to take advantage of this that they may claim the dignity of Artist. They are planners of houses, your "Architects"—"the profession"—the *Artist-Architect* is quite a different actor in the scene. Would that I could persuade you that the Fine Art Architecture *is* a Fine Art! Instead of *copying* your books and plates and authorities, you would *criticise* them: instead of worshipping rules and styles, you would seek the Temple of Nature: instead of bowing to the *dicta* of Antiquity you would do as men did in the antiquity ages, wiser in this than ours,—you would look into the human intellect for your rules. Did Phidias copy the Parthenon from *authorities*? Did he who sketched the first outlines of the lovely monument of Lysicrates measure it all carefully out of a book? Did your old freemasons count deviation from rule heresy? The rule-and-regulation system of our age they never dreamt of. To say that architecture is bound by those rules of yours is to pretend to hold the ocean in a sieve! The "orders" of *Architecture*? Orders of the *Imagination of man*? Thou shalt not imagine any thing but according to these *orders*? Can a man have intellect who says so? Or is it rather that he does not comprehend what Architecture is,—prates of it merely as a parrot would,—speaks as he has been taught to speak, careless of what it is the rote-speech means?

The Opposition. But tell me what you would do, now, when you discard *the styles* as you contemptuously call them?

Not contemptuously, my friend. They are valuable for their own worth, I say, but no more. What would I do? First, I am afraid that the study of them and the training in them which my youth has seen, must be a sore obstacle to the free exercise of imagination *pro re nata*, if I were to attempt what is called a new style. As "*nihil est in intellectu quod non prius fuerit in sensu*,"—as that which the imagination produces it produces by the combination of simples previously known; so also that which is once admitted into the storehouse of the fancy will be ever ready to influence the future work, and to supplant the less factitious means which otherwise would naturally arise. A habit is more easily acquired than quitted; and he in whose intellect the styles have become systematically fixed, cannot throw off their influence except by an effort, and so great a one that few could make it. Then again, independently of this, I have not pretended to be able intellectually to invent a new style; I cannot say that I have ever attempted it; and I have shown above, that great obstacles are in the way. But this is what I affirm that the true principles of criticism are not comparison with authorities, but abstract test by principles of nature and reason. I say, when you design go to your own intellect to guide your hand by *its* regulations, not to books and dogmas, and rules of styles; go to nature and the principles of human judgment and taste. "He who would really become an Architect must leave the special discussion of styles, and steadily look to the true end and aim of his art." So says Professor Cockerell;† and it is a gleam of living light appearing in dead darkness when he says so. May it increase and increase till men can see by it. But how strange that it should be so wonderful a thing to find an artist telling artists to go to Nature! Vague and weak as are the words, yet hear them, hear them and *ponder them*—"*the end and aim of the Art*." The ancients went to Nature when they produced those very authorities you go by; the originator of every style in your registry must have gone to Nature for his principles; and I say, instead of tethering yourself by these, go *you* to Nature also.

Opp. Ha! the ancients went to Nature, you say. Very well; they succeeded, and we profit by their success,—they did the work, we reap the benefit. For my own part I have no hope of excelling them, or even of equalling them. Look at the new styles—the inventions which *have* been made—what are they? Mere modifications of the standards. And unsuccessful too; the more so the farther the deviation from the model. Show me a new style—really new, show me a new order,—and then—

Then what my friend?

Opp. Then I'll call you a clever fellow, that's all.

Ah! I'm afraid that *is* all. But pursue your argument. Do you say it is impossible to invent another style—another order?

Opp. Do it, and then I shall admit it possible.

But without its being done, is it possible or is it impossible?

Opp. Why, it has been often tried, but has never succeeded.

I shall not press you to answer the question. One word on your "orders." The only plausible reason I ever heard urged for the *perfection* of their system is that given by the priest Villalpanda, that they were revealed to King Solomon in the design of the Temple at Jerusalem, the drawings for which were made in Heaven by the hand of God himself! If it were so, your pretensions would perhaps be reasonable; and my calling the system Fiddle-dedee might be a blasphemy; but whether the doctrine of that offuscated individual, or mine, has most of reason on its side, I leave yourself to judge. Your old gentlemen whose creed it is that "there are five orders in Architecture" certainly speak as if they had some Villalpanda for their chief, with a system of logic at his inspired back, like the system of that most illustrious fish out of water in this degenerate age, our beloved Ecclesiologist; else how they can persuade themselves into such contracted thought I for one must say I cannot tell.

London. R.

* Our correspondent wishes it to be intimated, that in the exercise of editorial discretion his last article was somewhat abbreviated. We willingly comply with his request.

† Fourth Lecture, 1846, as reported in The Builder.

THE STORM OF THE 1st OF AUGUST.

Frightful as is the amount of damage done by the late storm, in the shape of broken glass and injured works, it must, nevertheless, be regarded as a providential event in a sanatory point of view, for which we should be grateful. The purification of the air effected, and the cleansing of drains and sewers, to say nothing of the highways, were of the utmost importance. One of the minor advantages to London housekeepers, is the destruction of large numbers of rats washed out of the sewers by the floods. Some notion of the loss experienced in various quarters may be formed, from the vote of 4,500*l*. taken in the Commons a few nights since, to make good the damage to palaces and public buildings, by the storm in question. Strong efforts are being made in favour of the florists on whom the loss falls ruinously heavy. This loss will, perhaps, be the means of effecting a further alteration in the glass duties. A considerable importation of glass from Belgium is said to have been made. Glaziers are, of course, "looking up," but are so busy, they have little time to do so in.

PROVINCIAL NEWS.

The consecration of the newly-erected church at Bradpole, near Dorset, took place on Tuesday week. It is larger than the old one, having 400 sittings mostly free.——St. John's church, Bridgewater, was to be consecrated on Monday last.——The church of St. Michael, Gloucester, is to be repaired and restored. The parishioners have voted 600*l*. towards the work.——Sir John Jervis, the Attorney-General, has contributed 50*l*. towards the liquidation of the expense of the recent improvements in the interior of Chester cathedral.——Nearly 7,400*l*. have been already contributed towards the erection of the new churches in the four districts formed at Liverpool under Sir Robert Peel's Act.——The Liverpool Sanatory Bill, which comes into operation in January next, contains clauses for compelling manufacturers and owners of steam-vessels, to consume the smoke generated in their furnaces.—— It has been proposed to convey 300,000 gallons of water a distance of forty miles, into Liverpool, "without pumps, engine, aqueduct, or turncock," from the stream which descends through Llangollen-bridge, out of Bala Lake.——The opening of the three new Manchester parks is fixed for the 22nd instant, when the public baths and wash-houses lately instituted there are also to be opened. The inscription at the public gardens at Mayence, namely, "This garden is created for the advantage of the public, and it is committed to the public for protection," has been recommended for adoption at the Manchester-parks, in preference, at least, to the puerile address put up at the Prince's-park, at Liverpool, namely, "If you carefully avoid walking on the grass, it will remain green and beautiful for you."——The contract entered into with Mr. George Taylor for the erection of the Grecian chapel in the cemetery at Coventry, at the sum of 1,194*l*. has been accepted; and it has been resolved, that in consequence of the delay in the execution of the contract of the cemetery lodge, the committee have power to rescind the present contract, and to enter into any other which they may deem necessary. An engine is to be erected at the water-works or an agreement made with Sir T. White's trustees, for the use of the water.——St. John's church, Woodbridge, is to be consecrated on the 27th inst. ——The new jetty, at Cromer, was opened to the public on Friday week; the other works are not yet completed.——On opening the tenders made for the erection of a wall to enclose the ground lately consecrated at the churchyard of St. Gregory, Sudbury, it was found that the lowest sum was 97*l*. 15s. 6d., "much less than the cost price of the materials only," and the tender for that sum was accordingly accepted. The building of the wall depends, however, on assistance from St. Peter's, the parishioners of which bury their dead at St. Gregory's.—— The construction of the water-works at Lincoln is to be shortly commenced.——Numerous plans have been under consideration for the formation of the proposed new markets at Hull, varying in expense from 10,000*l*. to 22,000*l*. for the cost of building alone, or from 30,000*l*. to nearly 48,000*l*. including ground and other buildings to be removed; but as neither the consent of the council, nor the countenance of the inhabitants, have been yet obtained in favour of any one or two of them in particular, we need not enlarge on this point further in the meantime. We may remark, however, that amongst the more prominent, including total cost with buildings—according to the architect's statement and values are—Mr. Lockwood's, on Leadenhall site, No. 1, 45,668*l*., No. 2, 39,830*l*.; Mr. Cuthbert Brodrick's, on Silver-street site, 30,280*l*.: according to Mr. David Thorpe's statement and values, Mr. Lockwood's, No. 1, 47,641*l*.; No. 2, 41,830*l*.; Mr. Broderick's, 47,882*l*.; J. H. B.'s, on Silver-street site, 33,800*l*.—— The inhabitants of Hull have of late been undergoing a process of general purgation through the instrumentality of the oceanic salts with which their household supplies of water have been grossly impregnated. Complaints have very reasonably been made against the water-work authorities for presuming thus to usurp the functions of the "faculty."—— Mr. Steel of Edinburgh's, statue of Sir Walter Scott being completed, is very shortly to be placed on the pedestal in the monument. Sir

Walter is represented in a sitting attitude, with the ample folds of a Scottish plaid hanging loosely about him, and his favourite hound, Maida, at his feet. The work is of Carrara marble, and is highly spoken of.

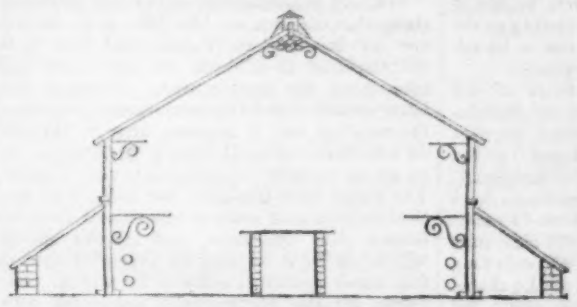
ELY CATHEDRAL RESTORED.

GREAT progress has been lately made with the restoration of Ely cathedral, although the dean and canons have no funds appropriated to repairs, and have therefore defrayed the very considerable expense of the restorations out of their own private means, except where aided by individual benefaction. From a communication to *The Times* of Saturday last, we obtain the following particulars:—

The alterations and improvements have been very extensive. Since the accession of the present dean more than forty windows have been opened and restored. The heavy combination of plaster and wood work which concealed the tomb of Cardinal de Lidanborgh, the tabernacle work of Bishop Alcock, and a considerable portion of the eastern window, has been removed. The tomb itself has been restored, and other works are in contemplation. The vaulting of the nave and side aisles of the east of the great lantern has been scraped and cleaned, and where wanting restored. The Purbeck marble shafts of the triforium and clerestory, which were disfigured with paint, have been repolished, as also the great marble piers, and the corbels and string-courses. Decayed and broken portions have been replaced with Purbeck marble. The restorations are supposed to be preparatory to an extension of the choir as far as the great lantern, and to an entire change in its arrangements. The tomb of Bishop Alcock has been restored, and the chapel itself cleaned and partially restored. But the most important of the new restorations are at the west end, erected by Bishop Riddell, at the close of the 12th century. The northern portion had fallen and the southern been left in a ruinous state in consequence of a subsidence of the great western tower, which is presumed to have been occasioned by the addition of the octagon portion of it at the close of the 14th century. Nearly every portion of this end of the church was in a state of ruin or dilapidation; but the whole has been restored and opened to the church. It is proposed to add an appropriate painted ceiling, from designs already prepared. As soon as funds can be provided, it is proposed to restore the ancient chapel of St. Catherine, which opens into the newly restored transept. At the east end of the cathedral the southern pinnacle, which was never finished, is in process of erection at the expense of Mr. Hope. The eastern cross, and the crockets, which it is proposed to put on the gable, are to be restored at the expense of Lady Mildred Hope. The dean has restored the chapel of Prior Croaden. Two painted windows have been placed in the cathedral, the gift of the Rev. Edward Sparke, and others are to be similarly adorned. The communication does not name the architect.

CONSTRUCTION OF GREENHOUSES.*

A THOROUGHLY good, practically useful greenhouse is a constant source of pleasure, and indeed profit, to the possessor; but unfortunately, in very many instances, either from erroneous plans, or an extravagant and needless waste of material, it is made as nearly the opposite as though such had been the intention of those who contrived it. Exorbitant charges and bad construction have done more injury to gardeners and gardening than may be readily conceived. The house we should prefer for general purposes is one which has a span-roof, standing east and west, in an elevated dry situation, sheltered somewhat from the north-east wind, but by no means surrounded with trees; and to explain our ideas more fully, and render them perfectly tangible, we shall call in the aid of the engraver. The sectional figure given below represents a house of considerable size, sufficient for the growth of a large collection of plants. Its length is forty feet, entire breadth twenty, and the height to the ridge plate ten feet. The roof in this is also a fixture—that is, the sashes are made to remain stationary; the advantages of which are manifold. In the first place, lighter material is sufficient, as all the wear and tear is removed; the frames and glass therefore last longer, requiring little or no repairs for many years, beyond the annual coat of paint which these places should always receive. A considerable amount of labour is also saved, and the general appearance of the erection greatly improved; the ventilation being effected in this case by an ingenious contrivance, invented by Mr. Farmer, greenhouse-builder, Newington Causeway. It is thus managed; a space is left open between the open rail of the sashes and the ridge plate on either side, for the entire length of the house; over this, at a slight elevation outside, is placed a protection board, to throw off rain, &c., while descending from it to the rail of the



lights is a valve-board on either side. These boards, by being hung on pivots, are easily drawn up by means of a cord and pulley, and thus egress for heated air is instantly obtained in the most proper place for ensuring a thorough yet moderate current of fresh air from the open lights in front. Along the sides of this house are shewn dwarf pits, the most appropriate receptacles for small plants, and here an important improvement presents itself. Instead of wasting nearly half the entire cost of the erection in useless brick walls, it is proposed to support the house by continuing the upright timbers through the sill down to the ground level, where they enter a plate laid on a footing of bricks. These stanchions will be found equally as secure and lasting as a nine-inch wall; and in front of them, proceeding from the under side of the sill, are the lights, which project about three feet to form the pits before spoken of. An interior connection existing between them and the main body of the house, beneath the front shelves, in consequence of there being no wall, the apparatus intended to supply the required heat to the house, by occupying its usual position, will at the same time, and at no greater expense, impart a sufficient warmth to the atmosphere of these pits, while the gardener will have the very great advantage of attending to his young nurslings in bad weather, without the trouble or danger to be feared from the sudden rush of cold air consequent on opening the lights on the outside. The cost of the necessary lights and framework for the pits is considerably less than the expense of a wall; and thus money is saved—the additional standing of the very best and most useful description positively gained for nothing—the proper strength of the house left unimpaired—and the general appearance of the erection, both externally and internally, greatly improved.

We present this plan to the notice of the public, feeling convinced that its many advantages will be certainly seen and appreciated. The paths, stages, shelves, and tanks for containing the water collected from the roofs of all horticultural erections, should be formed of slate, as we find it to be the cheapest and most durable material that can be employed; it is easily cleaned, does not become green from the moisture which surrounds it, and, if of good quality, will last for ages: for floors and narrow shelves or stages, slabs of half an inch in thickness are sufficient. These cost, with the fixing, from fivepence to sixpence per square foot; but for wider stages, intended to carry large pots, it will be advisable to have the slates fully an inch thick, to ensure a proportionate strength. The arrangement of the stages must be determined by the taste or convenience of the proprietor. In our figure the principal one is flat, and placed in the centre of the house, having a walk all around it; on the other side of which, and next the glass, is a smaller shelf, of about two feet in width, and over this, at the pitch of the roof, a still smaller one, for young plants which require to be kept close to the light. The centre stage is supported by two walls of four-inch brickwork, running lengthwise of the house; and if inch-slates are used, no other bearers will be necessary; and by leaving the ends open, access is had to the under part of the stage, which forms an excellent store for roots in winter, and sundry articles at all times. The other shelves are supported by iron brackets, which have a light appearance, and cause no obstruction in getting to the front pits. The cost of a house of the size and description of that mentioned is about 120*l*.

Leaving the particular mode of heating to the discretion of the owner, we particularly recommend hot water as the medium. The price of four-inch iron pipe, which is most commonly employed, is about 3*s*. 6*d*. per yard, to which is to be added the expense of fixing. The gutter pipes made by Messrs. Burbridge and Healy are very good, but are rather more expensive. They are made in two sizes; the larger are charged 30*s*. the length of nine feet, and the smaller 26*s*., exclusive of fixing. Tanks of iron, slate, or even wood, may be employed where a command of atmospheric moisture is desired, and for bottom heat they are unsurpassed. On the subject of boilers we scarcely know how to advise. The whole of them appear to us excessively dear, and we have expectations of shortly causing an alteration which may possibly surprise some of those who at present are making fortunes in the line. That form which is most economical of fuel must necessarily be the best, and this is the great objection to all the conical-shaped boilers. They do not burn freely without being fed with superior fuel, and much of their heat is lost by radiation from the sides; otherwise they are the cheapest, inasmuch as the expense of setting is saved; they are easily fixed or removed, and are cleanly in their operation. A great deal of the mystery with which dealers are anxious to surround themselves must shortly be removed, and their prices brought down to a more reasonable level.

* From the "Florist's Journal" for July. Published by Groombridge and Sons, London.

EXCAVATIONS AT STAMFORD.

DISCOVERY OF ANCIENT REMAINS.

THE curiosity of the inhabitants of Lincolnshire, in the vicinity of Stamford, has been much excited of late, according to the local papers, by the discovery of various traces of the former existence of an extensive religious house, which is known, historically, to have once occupied the site of the railway excavations now in progress there. Some portions of an arch, of narrow space, which has probably formed part of a subterranean passage, have been discovered; and large pieces of stone were of late continually dug up; but the chief objects of popular curiosity which had hitherto presented themselves, were pieces of stained glass, stone coffins, Danish or Saxon coins, and other articles. These were found near a building called "The Nuns;" and one of the coffins contained a skeleton in a state of great perfection. Several skulls and other human bones were then dug up. These remains of other days, says a local paper, have been found on the site where once stood the Austin Friary, of which scarcely a vestige is now to be seen, unless the tenements standing there were built of stone taken from the Friary ruins—a supposition which is at least doubtful.

Human skeletons and antique reliques have frequently been dug up in this vicinity. In 1711, a Mr. Richard Feast procured leave of the then Earl of Exeter to dig for stone out of the ruins, for the purpose of building a barn there; at which time, besides what stone sufficed for the barn, he also took up as much as built a court wall in his yard at Sempringham Hall, on St. Peter's-hill, where he then lived. Some of these stones were curiously carved, representing birds, beasts, fruit, and flowers. At the same time one of the workmen picked up two ancient seals. Not long after this some excavations were made for a

saw-pit, and in the cloisters were found a number of skulls and human bones. On the 22nd of February, 1712, were dug up a large parcel of glazed tiles of different colours. A great number of them were taken to the house of Mr. Walburg, of Pilsgate, and there employed, as they had been before, in flooring a room. From stone pillars and windows which were also dug up, Mr. Walburg describes the structure as having been very magnificent, and is of opinion that some of the rooms, whether for convenience or curiosity, had been paved with glazed tiles, of different colours, such as those dug out of the ruins. Several pieces of painted glass were found during these excavations also, and one piece, it is thought, must have been used for flooring, as it appeared of too thick a substance, and too heavily painted, to be available as a medium for the admission of light. The ascertainment of such a fact, as far as possible, would certainly be interesting at the present moment, when glass is about to be applied *as a novelty* for various purposes.

A general idea of the dimensions of this ancient edifice may be formed from calculations made by Mr. Walburg, though his description may be, what it is alleged by Mr. Foster to be, somewhat florid and imaginary. "The west front," he says, "appears to have been 80 yards long; the fourth front 10 yards. The chapel, standing on the north side, may easily be discerned to have been 60 yards long and 20 yards wide; and the end of the chapel westward seems to have ranged along the cloisters, which are the same length and breadth with the chapel, which seems to range even with and join to the last front, as the cloisters do to the west. The last front is also 80 yards long—so that the whole has been an entire square, and in the middle thereof very plainly appears a curious and complete court, being exactly 30 yards every way."

This convent was founded by one Fleming, a wealthy inhabitant of Stamford; and the care of finishing it was committed to the Archdeacon of Richmond. The precise date of its erection, however, is quite uncertain. It was granted,—6 Edw. VI.,—by the King to Edward, Lord Clinton. The Lord Treasurer Burghley died possessed of the site in 1598; and it latterly became the inheritance of the Marquis of Exeter.

Religious houses such as this were very numerous in Stamford and its vicinity, there being no less than eight or nine. The following quaint extract is from the "Survey and Antiquitie of the Towne of Stamford," written by Richard Butcher, Gent., "sometime towne clerk of the same."

"To manifest the profitable and pleasant scituation of this towne, the monks, friars, and nunnes of those superstitiouse times (like so many rats or mice, which make choyce to feede of the daintiest cheese) made choyce of this place to build several receptacles. As one observes of them—

> They plant themselves in fairest plott,
> For pasture, wood, and spring:
> Nor grief, nor care, come to their lot:
> When others sigh they sing.

For in and about this towne they had no less than eight several cells or monasteries."

Engineers not Agents binding Companies.—In the case of Mr. Sykes, a levelling engineer, engaged by Mr. Higgins, the acting engineer of a projected South and Midlands Railway, against Major Leonard Moss Cooper, a provisional director, it was found by Mr. Justice Erle, on the western circuit, at Bristol, 14th August, that "he could not hold that an engineer had an implied authority to bind a company as its agent. It was analogous to the case of a person employing a builder to erect a house. It could not be said that the builder was his agent, with authority to bind him in the employment. Artisans would be required to erect the building, but if they wished to be employed upon the credit of the principal, they must apply to him." The plaintiff was accordingly nonsuited.

Cooling of Sun-heated Roofs. — A simple and obvious sort of remedy, for an evil, which, we understand, has caused much inconvenience and probably disease during the present hot summer, has been lately suggested; namely, whitewash applied over the outside of the roof.

Correspondence.

FALL NECESSARY IN EGG-SHAPED SEWERS.

The Editor of The Builder would oblige a regular subscriber by informing him what fall is considered sufficient in egg-shaped street sewers to keep clean by means of surface and roof water *only*, entering therein from various house drains and street grates.

August 5, 1846.

*** The greater the body of water flowing the less fall, and conversely, the less the body of water the greater the fall required. But in ordinary cases, the fall should not be less than 3 inches per 100 feet.

THE QUEEN'S LONDON PALACE.

Sir,—A parliamentary paper just published states that the sum of 150,000*l.* is to be laid out on Buckingham Palace, and that it is contemplated to advance the east front and take down the marble arch. Whether the latter should ever have been erected is not now the question, but it appears, after it has cost an enormous outlay (I believe 70,000*l.*), to be an act of wasteful expenditure to take it down. The palace itself has been the subject of critical censure ever since it was altered from its former plain character, and all the money which has been or may be expended upon it will never render it suitable for a royal residence, for the circumstances connected with its situation must always remain the same. Surely it would be wiser, instead of throwing good money after bad, and laying out still further sums upon a low, damp, unhealthy spot, to erect at once a proper London residence for our sovereigns; and what situation can be fitter for this purpose than the site of Kensington Palace, high, dry, and healthy, with the finest of our parks in its foreground; and I would put in a word for the palace to be built in the style which was brought to such perfection by our Tudor rulers, a style preeminently English, and one in which the favourite royal architect is more conversant than with the classic styles.

My scheme is not so expensive as may appear at first sight, for, firstly, the expense of keeping up Kensington Palace would be saved; secondly, I conceive that an additional 100,000*l.* would be quite enough beyond the sum proposed for enlarging Buckingham Palace, since we know how much more costly lofty columns and heavy architraves are than Gothic enrichments; thirdly, I would devote Buckingham Palace to the purposes (among others) of the National Gallery, for which the state rooms on the upper floor of the Palace would serve admirably. They are 32 feet high, and could be lighted from above, and these alone would form a suite of seven splendid rooms: and as there has been long since an impression afloat, that at some time or other the national collection of pictures, and the Royal Academy exhibitions, must be in different buildings, this would be an opportunity of effecting the separation. And by removing the national collection from Trafalgar-square, observe what a great improvement may be made in the interior of the building for the purposes of the Royal Academy. As it would be no longer required for two distinct objects, the floor might be filled up in the central hall to the level of the two present sets of rooms, and the partitions between the small rooms being removed, there would remain a magnificent suite of nine rooms, extending upwards of 450 feet in length. A few hundreds would effect this alteration, which would permit a larger admission than usual of works of art to the annual exhibitions; and, what is of more consequence, the walls would not be so crowded with pictures, nor the rooms with spectators as heretofore.

I have thus pointed out a plan, which seems to embody several objects, highly desirable to all concerned. The sovereign would obtain a properly planned palace (*ab initio*) on a healthy spot, instead of a patched-up affair; the public would have an additional and delightful place for exercise in the gardens of Buckingham Palace, almost equal in extent to the Green Park; our exhibitions would have ample space, and the cost saved in erecting a new national gallery (which has been talked of) would pay for the additional outlay at the New Palace.—I remain, Sir, &c.

17th August, 1846. G. R. F.

Miscellanea.

The Coliseum, Rome.—"It is no fiction," writes Dickens, "but plain sober, honest truth, to say—so suggestive and distinct is it at this hour—that, for a moment, actually in passing in, they who will, may have the whole great pile before them, as it used to be; with thousands of eager faces staring down into the arena, and such a whirl of strife and blood and dust, going on there, as no language can describe. Its solitude, its awful beauty, and its utter desolation, strike upon the stranger, the next moment, like a softened sorrow: and never in his life, perhaps, will he be so moved and overcome by any sight not immediately connected with his own affections and afflictions. To see it crumbling there, an inch a year; its walls and arches overgrown with green; its corridors open to the day; the long grass growing in its porches; young trees of yesterday springing up on its ragged parapets and bearing fruit—chance produce of the seeds dropped there by the birds who build their nests within its chinks and crannies; to see its pit of fight filled up with earth, and the peaceful cross planted in the centre; to climb into its upper halls, and look down on ruin, ruin, ruin, all about it; the triumphal arches of Constantine, Septimus Severus, and Titus; the Roman Forum; the Palace of the Cæsars; the temples of the old religion, fallen down and gone; is to see the ghost of Old Rome—wicked, wonderful old city—haunting the very ground on which its people trod. It is the most impressive, the most stately, the most solemn, grand, majestic, mournful sight, conceivable. Never in its bloodiest prime, can the sight of the gigantic Coliseum, full and running over with the lustiest life, have moved one heart, as it must move all who look upon it now, a ruin. God be thanked—a ruin!" Again: "By way of contrast, we rode out into old ruined Rome, after all this firing and booming, to take our leave of the Coliseum. I had seen it by moonlight before (I never could get through a day without going back to it), but its tremendous solitude that night is past all telling. The ghostly pillars in the Forum; the triumphal arches of old emperors; those enormous masses of ruin which were once their palaces; the grass-grown mounds that mark the graves of ruined temples; the stones of the Via Sacra, smooth with the tread of feet in ancient Rome; even these were dimmed, in their transcendent melancholy, by the dark ghost of its bloody holidays, erect and grim, haunting the old scene; despoiled by pillaging popes and fighting princes, but not laid; wringing wild hands of weed, and grass, and bramble; and lamenting to the night in every gap and broken arch—the shadow of its awful self, immovable!"

The Middle Row Obstruction, Holborn.—We are glad to observe, that our suggestion that this nuisance ought now to be altogether cleared away, has been so far already acted on by the Holborn Paving Commissioners, some of whom have waited on the Lord Mayor, as a Commissioner of Public Improvement, and more especially interested in the clearing away of all obstructions in the way of the principal entrances to the city, and have succeeded in at least engaging his lordship's interest and good wishes to the cause. Lord Morpeth also has specially visited the spot, and considers the project a highly important one.

Gas for Illumination derived from Water.—In a paper in the *Bulletin du Musée d'Industrie*, M. Jobard, in describing the result of his experiments on gases for illumination, states that he caused hydrogen gas, obtained by the distillation of water, to take up hydrocarburets produced by the distillation of coal gas at the moment of formation; and that twice or thrice the quantity could be obtained than by the ordinary method. The necessity of purifying, he remarks, is done away with, and particularly when fish or other oils are employed. In experiments made with more than 1,500 feet of gas, watched for several hours, it was found that 111 feet of gas were produced from every pound of oil.

Decorations, Birmingham Town-hall.—A correspondent complains justly, that in the local accounts of this work the architects and decorator are not named. They are Messrs. Edge and Avery of Birmingham, and Mr. Crace of London.

THE ALBERT DOCK AND WAREHOUSES, LIVERPOOL.—This gigantic work was commenced in 1842. The water space of the dock is seven acres, 2981 yards; its area is nearly square, and its quays are surrounded with continuous ranges of warehouses, 66 feet high. The quays are 40 feet above the pile-heads, and the foundations lie 11 feet below the old dock sill. The height of the warehouses from the foundations is, therefore, 106 feet. The number of piles is about 14,000; they are made from beech trees of the very best description, and reckoning their length at 36 feet each, they would reach over 48 miles. The *Liverpool Mail* says, that "in the construction of the warehouses about 24,000,000 bricks have been laid, in 47,350 tons of mortar, of a quality which when dry is as hard as the bricks themselves. The floors of every story are of brick, turned on pillars and rafters of iron; of which metal the doors, window frames, &c., are all constructed: indeed there is not a particle of wood in the whole of these immense buildings. The quantity of iron used amounts to 10,000 tons, and the number of flooring tiles 1,130,000. The ground floor is open to the quays, and there are 45 centres, with cranes, the largest of sufficient strength to carry ten tons. The entire floor space is 115,230 yards, or about 24 acres. The roofs are of galvanized iron. The total cost, including the cut into the Canning Basin, by which it is entered, is 800,000*l.*"

DISFIGUREMENT OF TEMPLE BAR.—The west side of Temple Bar has been placarded, during the past week, with huge invitations to her Majesty's lieges to "use diamond dust" as the only means of putting an edge on blunt razors. The parties who permit this disfigurement, as they evidently want sharpening, cannot do better than avail themselves of the article in question: they must be dull blades, and want touching up.

CATHEDRAL OF CANICE, IRELAND.—Messrs. Hodges and Smith, of Dublin, announce for publication, "The Architecture, History, and Antiquities of the Cathedral Church of St. Canice," by the Rev. James Graves. This cathedral was erected about the middle of the thirteenth century, and is one of the best examples in Ireland of the early English style. The work will be sent to press when 200 names are enrolled.

NOTICES OF CONTRACTS.

[We are compelled, by the interference of the Stamp Office, to omit the names of the parties to whom tenders, &c. are to be addressed. For the convenience of our readers, however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-street, Covent Garden.]

For the mason and brick work of the Sailors' Home, Liverpool.

For the carpenter's work of the Sailors' Home, at Liverpool.

For the plasterers' work of the Sailors' Home, Liverpool.

For the slater's, plumber's and glazier's, and other work of the Sailors' Home, Liverpool.—Tenders will be received either for part or for the whole of the different departments of work to be done in the erection of the Sailors' Home.

For 643 square yards of good granite, required at Windsor.

For 1,200 yards of pitcher-paving for the streets of Faversham.

For the building the National School-rooms at Great Chesterford.

For the iron railing to surround the proposed Church of England Cemetery at Warstone, Birmingham.

For the Kentish rag mason's work of two buildings in London—labour only, at per rod, with good new scaffolding.

For the works about to be undertaken at St. Martin's Church, Leicester.

For the building of a public-house near the entrance to the Victoria Park, Hackney.

For the disposal of the lease, stock, and fixtures of an oil and colour shop at the west-end—coming in, 150*l.*: has another concern.

For the disposal of a three-horse power high-pressure engine, with or without a boiler; also tubular and other boilers, &c.

For the supply of gas lanterns for public lights, with glass tops, for the new cast-iron gas-posts and columns in the parish of Hackney, at per lantern.

For the supply and affixing of the necessary gas-pipes and fittings to the new gas-posts and columns to be erected at Hackney, at per post and column.

For lighting certain lamps at Hackney with naphtha or essential oil of tar.

For 150 carpenters and joiners at Sheffield: 24*s.* to 26*s.* per week.

For the sale of the materials of the Half-way Public-house, Kensington-road, to be pulled down and cleared away by the purchaser.

For a dredging-machine, in perfect working order, suitable for the Thames.

For the disposal of an old-established country plumber's business—retiring.

For the erection of the new workhouse for the Hungerford Union (short extension of time).

For two or three marble masons, constant employment, near Langport.

For the disposal of the lease and general jobbing business of a plumber, decorator, &c., at the west end.

For the disposal of an ironmongery country business, established half a century.

For the mason and brick work of a vicarage-house near Merthyr Tydvil (promptly).

For the carpenter's and glazier's work of a vicarage-house near Merthyr Tydvil.

For the plumber's slater's, and other work of a vicarage-house near Merthyr Tydvil. Tenders for the whole works necessary in the erection of the vicarage-house will also be received (promptly).

For the sale of 60 marble chimney-pieces at Covent Garden.

For certain repairs and alterations in St. Mary's Church, South Bailey, Durham.

For lowering a bank, filling up a hollow, and widening a small portion of a turnpike-road at Lydham, near Church Stoke.

For the erection of new schools with master's house, &c., at Harrold, Bedfordshire (promptly).

For the disposal of a cheap one horse-power, high pressure engine, &c., at Newington Causeway.

For the working of the Southampton Sewers' steam-engine, and triple pump, including all labour, coals, oil, &c.

For a fire-brick maker to contract for the making of all kinds of fire-goods by piece, at Newcastle-on-Tyne.

For the sale of a cargo of Nos. 2 and 3 Caithness flags and sleepers (half rubbed and natural face), also of a large quantity of Baltic and Scotch sleepers, at Newcastle-on-Tyne.

For the sale, duty free, and customs measure, at Portsmouth, of portions of a cargo of pine and elm timber, deals, and lathwood.

For the sale of yellow pine, rock elm, and spruce deals from Quebec, at Southampton Docks.

For the sale of a four-horse power, portable, high-pressure engine, with tubular boiler, &c., at Greenwich.

For the erection of the new school houses at St. John's, in Bedwardine.

For the disposal of a choice cargo of timber at Douglas, Isle of Man, comprising planks, balks, boards, spars, poles, &c.

For the sale of a 24-inch cylinder steam-engine, with eight tons of boiler, &c., at Camborne.

For the execution of the Morley contract on the Leeds, Dewsbury, and Manchester Railway.

For the execution of the works from Skipton and Colne to Keighley, on the Leeds and Bradford Railway; a length of nineteen miles and a half.

For the sale, together, or in lots, of a quantity of timber, consisting of oak, ash, elm, and beech, near Derby.

For the disposal of a fourteen-horse power engine, at Louth.

For the whole of the works on that part of the Aberdeen Railway from Heatherwick to the North Esk, a length of about four miles.

For the whole of the works on that part of the Aberdeen Railway between Water of Bervie and Redhall; a length of three miles and upwards.

For the erection of a retaining or quay wall, at or near the Bay of Quick, Greenock.

For a supply of 50,000 or more cylindrical pipe-tiles for land draining, deliverable at Johns-haven, Kincardineshire.

For the letting of an extensive field of superior fire-clay, at Gartsherrie, Old Monkland, Scotland.

For the lease of an excellent granite quarry in Argyleshire, near the sea.

For the sale of a quantity of memel, crown, and middling timber, oak and pine timber, battens, deals, Welsh double slates, Arbroath pavement, and Balachelish slates—Scotland.

For the sale of a large quantity of mountain pine and larch sleepers, at Belfast, deliverable at any English port.

For the sale of valuable freehold iron-works, at Tipton, Staffordshire; engine 40-horse power.

For the letting or sale of the Wem gas works, with the lamps, fittings, &c.

For painting the principal suite of rooms and grand staircase of the town hall at Brighton.

For the sale of a steam saw-mill, or any portion of its machinery.

COMPETITIONS.

Designs are wanted for the enclosing of St. Mary's churchyard, Southampton, and the public paths therein in a substantial, ornamental, and economical manner. Five pounds for the selected plan.

Plans, specifications, and estimates are wanted for a new vicarage house in the parish of Braddan, Isle of Man, to contain, above the basement plan, five or six bed-rooms and attics, and not to exceed 400*l.* when completed. The most approved plan only will be paid for.

APPROACHING SALES OF WOOD, &c.

BY AUCTION.

At or near Kilbarchan, Scotland: about 120 lots of larch and Scots fir.

At Kilpatrick, Scotland: 300 lots of larch and Scots and spruce fir forty years old.

At Upper Canvamore, Cork: about 30,000 timber trees, consisting of growing larch, Scots, spruce, and beech, and about 15,000 other trees, comprising ash, elm, beech, larch, &c., all about twenty years' growth.

At Aylesbury, near the railway: 50,000 capital building bricks.

At Aberdeen: the whole works and plant of the Aberdeen Gas Light Company. Adjourned sale.

At Brick-lane, Shoreditch: in lots, the building and other materials of eighteen modern houses.

At 80, Fore-street, Cripplegate: all the building materials and fixtures of a dwelling-house, workshops, &c.

At Oatlands-park, near the South Western Railway: the building and other materials of couch-houses, stables, offices, &c.

At New Bond-street, London: the building materials of No. 47.

At Liverpool: about twenty marble chimney-pieces, table tops, &c.

At 99, Great Portland-street, London: the lease and goodwill, of an old-established and lucrative painter's plumbers', and glaziers' business.

At Compton-street, Liverpool: two wrought-iron water tanks, one 4 feet 4 by 4 feet 10, and 2 feet 5 deep: the other 7 feet 2 by 4 feet 4, and 2 feet 5 deep. Also twelve iron columns 24 feet long, 8 inches diameter, with caps, bases, &c., and a quantity of iron smiths' hearths, tools, timber, bricks, &c.

TO CORRESPONDENTS.

"*W. S.*" The party having paid money on account of the extras without objecting to the claim, would have no case to resist it now. If your statement be correct, W. S. can enforce a settlement.

"*J. K.*" Declined.

"*A Poor Landlord.*" A covering of light zinc will be the cheapest course in the end. To patch such a roof (apparently badly done in the first instance) is to throw away money.

"*G. H.,*" "*Constant Reader,*" &c. We cannot afford the time that would be required to answer their inquiries.

"*Asphalte Staining.*" In reply to correspondents, the asphalte (depot Stangate) ground on a stone, like other preparations for paint, and mixed with a little varnish, makes good work.

"*Beer Tanks.*" A Correspondent recommends the same material, in reply to inquiry last week.

"*Architectural Shadows.*" A continuation of Professor Davies's article will appear next week.

"*W. E. S.,*" "*London Church-yards,*" "*W. Wood,*" "*W. T. W.,*" next week.

Received.—"R. F. B.," "A. B." (Hackney), "B. B.," "Remarks on Architectural Character, by the Rev. J. L. Petit, M.A. (Parker, Oxford); "Remarks on the Principles of Gothic Architecture, as applied to Parish Churches," by same author (Parker); "Round Rail *versus* T Rail," by Geometrius (Richardson, Cornhill).

ADVERTISEMENTS.

INVENTORS and DEPOSITORS of WORKING MODELS and of other Specimens of the Useful Arts (as well as the Visitors of the ROYAL POLYTECHNIC INSTITUTION) are respectfully informed that the Directors have given their anxious consideration to the new appointment of Demonstrator in Mechanics, whose duty will be to explain to the Visitors the principles and uses of the above Specimens with clearness and simplicity. The Lectures now comprise the Electric Telegraph, as well as other objects of present interest. The beautiful Optical Instruments, &c. &c.—Admission, 1*s.* Schools, Half-price.

TO CIVIL ENGINEERS, SURVEYORS, &c.

HENRY POPE, Wholesale Stationer, desires to return his best thanks to the Profession for their support, which has secured to him so large a sale of his mounted drawing papers, and from which he has made arrangements to keep a large stock always on hand, as well as tracing, drawing-papers, and every description of general stationery, which may be had at the wholesale prices.

N.B. Maker of the Metallic, Levelling, and Surveying Field Books, with Patent Pencil. 22, Budge-row, Watling-street, City.

TO ARCHITECTS AND BUILDERS.

DOOR SPRINGS AND HINGES.—GERISH'S PATENT DOOR SPRINGS, for CLOSING every description of DOOR, consists of Single and DOUBLE-ACTION BUTT HINGES in Brass and Iron for Doors to open one or both ways, and Rising Hinges for the convenience of Doors opening on uneven Floors. Likewise Swing Centres, which consist of a combination of power unequalled by any made at present. Manufactured by F. W. Gerish, East-road, City-road; and sold by all respectable Ironmongers in the United Kingdom.

R. GOODLAD and Co., Paper-hanging Manufacturers, 1, Southampton-street, two doors from the Strand, London. R. G. and Co. beg respectfully to express their thanks for past favours, and solicit their friends, and the Trade generally, to inspect their extensive assortment of the choicest Patterns, which they can vouch ranks second to none in the metropolis, either as regards extent of stock, variety, or moderate charges. A liberal allowance to Builders and the Trade. For cash only.

TO ARCHITECTS, BUILDERS, & BRICK MAKERS.

PUMPS of Superior CONSTRUCTION, bored perfectly true by improved machinery, in various plain and ornamental patterns for Conservatories, Squares, Market Places, Roads, Gardens, and for Liquid Manure. BRICKMAKERS' PUMPS, in Wrought and Cast Iron, HYDRAULIC LIFT PUMPS, and ENGINES for Wells of any depth. SINGLE and DOUBLE PUMPS up to 12-inch bore, kept for Hire.

BENJ. FOWLER, 63, Dorset-street, Fleet-street.

PIMLICO MARBLE AND STONE WORKS, BELGRAVE WHARF, PIMLICO-ROAD.

SAMUEL CUNDY begs to inform Architects, &c., that every description of Stone, Marble, and Granite work is executed at the cheapest possible rate.

Estimates given for Mason's Work in all its branches. Gothic Work, Tombs, Monuments, &c.

MARBLE WORK for Halls, Dairies, Tables, Columns, Vases, at most reasonable prices.

A large collection of Designs for Mural and other Monuments.

CHIMNEY PIECES from Twelve Shillings upwards.

Depôt for CAEN STONE, &c.

CAEN STONE.

TUCKWELL'S Norway Sufferance Wharf, Greenwich.—Architects and Stone Merchants are informed, that this stone may be procured at the above Wharf in any quantity, in blocks up to 12 tons. The stone, which is exclusively the product of the Allemagne Quarries, and of the very finest quality, is consigned solely to W. TUCKWELL, who is prepared to execute orders to any extent, having a Large Stock always on the Wharf.—Orders received by, and further information with samples may be obtained of Mr. R. A. WITHALL, Surveyor, 80, Cheapside, and of Mr. W. TUCKWELL, at the Wharf.

N.B. Cargoes shipped direct to any Port.

MORTGAGE AND ANNUITY OFFICE, No. 123, CHANCERY-LANE.

PERSONS requiring LOANS by way of MORTGAGE or otherwise upon any available security, may at all times procure an advance to the extent of from 100*l.* to 150,000*l.*, or so much as the property will bear, by applying to Mr. BRAY, surveyor, at the offices as above, where a registry for the sale of estates, houses, land, life interests, and reversions, is kept for inspection.

N.B. To expedite the procuration, personal application at the office would in all cases be better, the party bringing with them the abstract of title, plans, &c.

WILSON'S PATENT
VENTILATING
SPIRAL CHIMNEY POT,

For the cure of smoky chimneys (manufactured by J. PORTER), is the ONLY article for the purpose which assists the draft of the chimney by an external propelling power. Upwards of fifty were fixed last winter on the chimneys of Buckingham Palace, and Windsor Castle, with great success.

This Chimney-pot is not only the best and most effectual ever invented for the purpose named, but stands unrivalled in its ornamental appearance.

The public may be supplied with the above useful article by any of the respectable ironmongers, or at the sole manufactory,

Southwark-bridge Iron Roofing Works.

DAY'S PATENT WINDGUARD, for ventilating

Churches,	Shops,	Kitchens,
Hospitals,	Bed-rooms,	Offices,
Factories,	Smoking-rooms,	Ships,
Theatres,	School-rooms,	Mines,
Breweries,	Nurseries,	Vaults,
Malt-houses,	Stables,	Tunnels,
Club-houses,	Larders,	&c. &c.

Also for preventing down draft; and is guaranteed to cure all smoky chimneys caused by wind; and entirely supersedes the use of revolving cowls, or any thing moveable or unsightly on the tops of chimneys or ventilators.

The object of this invention is to create a draft where otherwise it would not exist, by the spontaneous action of the external air. The Windguard forms a pleasing octagonal pillar, and by its peculiar construction to carry out the principle on which it is based, which consists of the wind giving a disposition for a vacuum within, thereby causing a continual upward current about equal to the velocity of the wind at the time acting upon it, which averages about six feet per second thirty days out of thirty-one; therefore, will nearly at all times ensure a continual change of air, being no impediment to spontaneous ventilation, even on a perfectly calm day. One five feet square will ventilate a building containing upwards of 1,000 persons. The Windguard applied to ships and steam vessels, in the form of a sky-light, prevents rain or the sea entering within, however boisterous the weather may be, thereby affording excellent ventilation as well as light. The Windguard is simply applied for effectually ventilating bed-rooms, nurseries, smoking-rooms, offices, &c., causing the air of the apartment to be at all times as pleasant as can be desired. It is fixed at the top of the chimney, in addition to which a cast-iron frame and valve (about one foot area), made to open or shut at pleasure, is let into the flue, near the ceiling of the room, to allow the constant ascending vitiated air being immediately carried off. The opening is guarded by a neat venetian blind or grating; and so powerful is the effect on a windy day that if a handkerchief be thrown up to the grating, it will remain there—i. e. if the valve be open. In winter the valve would be only partially open, to allow the smoke from the fire to ascend, but if the room be found too cold, can be entirely closed. The Windguard applied to the tops of chimneys prevents all annoyance from smoke (caused by wind); indeed, where it does not, nothing else applied at top will (of the same size); care, therefore should be taken to have the proper size applied. It is simple in its application, reasonable in price, ornamental in appearance; no machinery or anything moveable in it, therefore, cannot get out of order; free from noise or any unpleasantness whatever; not liable to choke up with soot; no obstacle to the machines used for sweeping chimneys. May be had of all respectable ironmongers in town and country; and may be seen daily in operation, where its powers and usefulness are exhibited by the severest tests, at THE PATENT VENTILATING WORKS, COMMERCIAL-ROAD, PIMLICO, LONDON; where also may be seen Mr. G. T. DAY'S plans (illustrating the different applications of his Patent Archimedian Ventilator and his Portable Water Apparatus) for effectually Ventilating, Warming, and Cooling the Air of Buildings, Ships, Mines, &c. &c. By the use of these inventions many thousand cubic feet, or any quantity of pure warm or cold air, can be guaranteed to be continually exchanged per minute, day and night, winter and summer; thereby insuring, at all times, free ventilation to the rooms and passages of buildings, &c. from the basement to the roof, at the same time in such a manner as shall not be inconveniently perceptible. The size of the apparatus depends on the nature and use of the building and its occupants. The Patentee has been honoured by his inventions being applied at the following places:—

Windsor Castle,	Trinity House,
Buckingham Palace,	Ordnance,
Saint James's Palace,	Greenwich Hospital,
Claremont Palace,	Christ's Hospital,
Walmer Castle	Westminster Hospital,
The Houses of Parliament,	Bethlehem Hospital,
New Conservative Club,	Surrey Lunatic Asylum,
White's Club,	New Royal Exchange,
Travellers' Club,	Mansion House,
Oxford and Cambridge,	Goldsmiths' Hall,
Parthenon,	Fishmongers' Hall,
Wyndham,	Haberdashers' Hall,
Army and Navy,	Dyers' Hall,
Senior United Service,	Grocers' Hall,
Junior United Service,	Armourers' Hall.
Admiralty,	Weigh-house Meeting-house
British Museum,	Hanover Square Rooms,
Somerset House,	Theatre of the Westminster Literary and Scientific Institution,
Custom House,	
Mint,	
Hon. Artillery Company,	Grand Cigar Divan, Strand,
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3d.	4d.	6d.	8d.	10d.	20d.
5d.	6d.	7d.	11d.	1s. 4d.	1s. 10d. per 1000.

Best Sheet Floor Brads 15s. per cwt.

Best Town Glue 40s. per cwt. Do. Scotch 52s. per cwt.

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1	2	3	4	5	6
4s. 3d.	5s.	6s. 6d.	7s. 6d.	10s.	12s. per gross.

Elliptic Stoves, 3d. per inch. Registers, 6½d., 7d., 9d. per inch.

Self-acting Kitchen Ranges with Oven and Back Boiler.

Wrought Bars and Bright Fittings.

3 ft., 3*l.* 3s. 3 ft. 6 in., 3*l.* 12s. 6d. 4 ft., 4*l.*

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Strong Self-acting Kitchen-Ranges, with back Boiler and Oven, and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
3*l.* 6s.	3*l.* 13s.	3*l.* 16s.	4*l.*	4*l.* 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
5*l.*	5*l.* 15s.	6*l.* 5s.	6*l.* 10s.	7*l.*

Best Register Stoves, at 7d., 8d., and 9d. per inch.

Do. Elliptic do., at 3½d., and 4d. do.

Manufacturer of WOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.

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Zinc sash-bar mouldings, bell-wire rope, &c. &c. Perforated zinc for safes, ventilators, &c. &c. Roofs, flats, and verandahs, covered on the newest principle. Manufacturer of the improved Sliding Glass Pane Ventilator.—ZINC WORKS, 15, New-road, opposite Fitzroy-square.

SIR WILLIAM BURNETT'S PATENT for the Preservation of Timber, Canvas, Cordage, Cotton, Woollen, &c., from Decay.

TESTIMONIALS.

From THOMAS GRAHAM, Esq., M.A., F.R.S., L. and E., Professor of Chemistry, University College, London.

"After making several experiments on wood prepared by the solution of chloride of zinc for the purpose of preservation, and given the subject my best consideration, I have come to the following conclusions.

"The wood appears to be fully and deeply penetrated by the metallic salt; I have found it in the centre of a large prepared paving block.

"The salt, although very soluble, does not leave the wood easily when exposed to the weather, or buried in dry or damp earth. It does not come to the surface of the wood by efflorescence, like the crystallizable salts. I have no doubt, indeed, that the greater part of the salts will remain in the wood for years, when employed for railway sleepers or such purposes. This may be of material consequence when the wood is exposed to the attacks of insects, such as the white ant in India, which I believe would be repelled by the poisonous metallic salt.

"After being long macerated in cold water, or even boiled in water, thin chips of the prepared wood retain a sensible quantity of the oxide of zinc; which I confirmed by Mr. Toplis's test, and observing that the wood can be permanently dyed from being charged with a metallic mordant.

"I have no doubt, from repeated observations made during several years, of the valuable preservative qualities of the solution of chloride of zinc, as applied in Sir W. Burnett's process; and would refer its beneficial action chiefly to the small quantity of the metallic salt which is permanently retained by the ligneous fibre in all circumstances of exposure. The oxide of zinc appears to alter and harden the FIBRE of wood, and destroy the solubility, and prevent the tendency to decomposition of the azotised principles it contains, by entering into chemical combination with them.

(Signed) "THOMAS GRAHAM."

" University College, 25th October, 1845.

From Professors BRANDE and COOPER.

" London, 4th November, 1845.

"SIR,—We have this day again examined the specimens of canvas and wood prepared according to the specification of your patent, and which, in the month of April, 1844, we placed in a damp cellar, where they have remained up to this date.

"We are now enabled satisfactorily to corroborate the favourable opinion expressed in our former report. The canvas remains amply protected from all fungous vegetation and rottenness, while a corresponding sample of the same piece, which had not been prepared by immersion in the solution of chloride of zinc, is entirely decayed, being mouldy, rotten, black, and in places resembles timber.

"We have also lately compared the strength of a fibre of a piece of canvas which we prepared according to your specification, in October, 1844, with that of the fibre of the same canvas, unprepared, and find that it has in that respect sustained no injury. We are therefore of opinion that your process will not, after any lapse of time, tend to deteriorate the strength of the fibres of the substances in question.

"In regard to the several samples of different species of wood above adverted to, each of which was cut into two, one half being imbued according to the directions of your specification with the dilute solution of chloride of zinc, while the other half was left in its original condition, we have also to make a favourable report, and to repeat our opinion of the efficacy of your process as a preventive of dry rot, and similar sources of decay; the unprepared specimens are manifesting symptoms of decay and mildew, while those which have been protected by your preparation are clean and sound.—(Signed) "WILLIAM THOMAS BRANDE,

" JOHN THOMAS COOPER."

" To Sir William Burnett, K.C.H., F.R.S., &c. &c."

Testimonials from numerous other parties may be obtained on application, personally or by letter, to the Secretary, and Specimens may be seen at the Office, 53, King William-street, London-bridge.

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Specimens of these beautiful Tiles in all their Varieties, may be seen and information obtained at the London Agents, Messrs. GRIEVE and GRELLIER, Marble-wharf, Belvidere-road, Waterloo-bridge, or at the Encaustic Tile Works, of Messrs. F. ST. JOHN G. BARR, and Co., Worcester.

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